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VOL. XLI. No. 163.

JULY, 1932.

# MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROF. G. E. MOORE,

WITH THE CO-OPERATION OF PROF. F. C. BARTLETT AND C. D. BROAD, LITT.D.

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PUBLISHED FOR THE MIND ASSOCIATION BY  
MACMILLAN & CO., LIMITED,  
ST. MARTIN'S STREET, LONDON, W.C. 2.

NEW YORK: THE MACMILLAN COMPANY.

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Yearly Subscribers will receive MIND post free from the Publishers  
on payment (in advance) of Sixteen Shillings.

Entered as Second Class Matter, March 15, 1929, at the Post Office at Boston, Mass., under the  
Act of March 3, 1879 (Sec. 397, P. L. & R.).

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I.—PROBABILITY: AXIOMS.

BY W. E. JOHNSON.

FOR the calculation of probabilities two and only two arithmetical axioms are required. The one deals with the addition and the other with the multiplication of probabilities. These two axioms could be expressed in various forms; in the symbolic development of the calculus we should choose that form which would enable us to derive results most neatly and systematically. But in introducing the subject with a view to giving the learner an insight into the fundamental principles of the theory, and of applying these principles to simple examples, a different formulation will be chosen. For brevity the supposal will be indicated by introducing the word 'upon'; that is, in the expression 'Prob.  $b$  upon  $a$ ',  $b$  is the proposal and  $a$  the supposal. Thus if  $b$  means that a red ball will be drawn, and  $a$  that the bag contains 5 red balls out of 13, then the expression 'Prob.  $b$  upon  $a$ ' is equivalent to 'the probability of drawing red as based upon the knowledge that the bag contains 5 red balls out of 13'. Or again, if  $b$  means that miracles have occurred, and  $a$  that certain documents recording miracles have been discovered, then 'Prob.  $b$  upon  $a$ ' is equivalent to 'the probability that miracles have occurred as based upon the knowledge of the existence of such documents'.

With the purpose, then, of exhibiting the underlying principles of the theory, we will formulate the axioms of addition and multiplication as follows:—

*Axiom of Addition:* When the conjunction  $ab$  is known to be false, Prob.  $(a \text{ or } b)$  = Prob.  $a +$  Prob.  $b$ .

*Axiom of Multiplication* : When  $a$  is not known to be false, Prob. ( $a$  and  $b$ ) = Prob.  $a \times$  Prob.  $b$  upon  $a$ .<sup>1</sup>

In accordance with the formula of addition, the probability of a proposition expressed as an *alternative* equals the *sum* of the probabilities of the alternants, provided these alternants are co-disjunct.

In accordance with the formula of multiplication, the probability of a proposition expressed as a *conjunctive* equals the *product* of the probability of either one of its conjuncts which is not known to be false *into* the probability of the other, as based upon the supposition that the former is true.

In the symbolic expression of the formulæ, we have omitted to indicate the supposal to which all the probabilities in common refer. This supposal must be mentally supplied ; and the additional supposal  $a$  which is introduced in the axiom of multiplication must then be conjoined with it.

The processes of addition and multiplication denote operations performed upon probabilities, and they have significance because probabilities are quantities. Probability being regarded as a fraction of certitude, probabilities can obviously be added ; but their multiplication requires special interpretation. In fact, the above formula of multiplication is not precisely correct ; for the value 'certitude' ought to have been introduced as a multiplier on the left or as a divisor on the right, in order to exhibit the formula in homogeneous terms. In using the axiom of multiplication, let it first be noted that the formula has really no significance unless the proposition  $a$  is possible, in the sense that it is not known to be false ; for, if it were known to be false, its probability would be zero ; and moreover there would be no sense in considering the probability of another proposition as based upon the supposition of its truth. Then, contrasting the formula of multiplication with that of addition, it will be found that whereas the two probabilities added in the latter are taken upon a common supposal, the two probabilities multiplied in the former are taken not upon a common supposal, since one of the two is taken upon the additional supposition of the truth of the other. Further, since no probability can be less than

<sup>1</sup> Whereas the symbols  $+$  and  $\times$  connect probabilities as quantities, the words 'or' and 'and' connect propositions. The formulæ show that 'or' is associated with  $+$ , and 'and' with  $\times$ . The student must beware of confusing the arithmetical symbols with the propositional modes of combination. This he is apt to do because he has learnt to associate 'or' with *plus* and 'and' with *into*. It is equally important not to confuse the term 'upon' occurring in a probability statement with that occurring in the expression of an arithmetical fraction.

zero, the addition formula confirms the inequality-theorem that the probability of an alternative cannot be less than the probability of either of its alternants ; and similarly, since no probability can be greater than certitude, the formula of multiplication confirms the inequality-theorem that the probability of a conjunctive cannot be greater than the probability of either of its conjuncts.

The two formulae can obviously be extended to any number of constituent propositions. Thus, for addition, we have :

When the conjunctions of  $a, b, c, d \dots$ , taken in pairs, are known to be false, then Prob. ( $a$  or  $b$  or  $c$  or  $d \dots$ ) equals Prob.  $a +$  Prob.  $b +$  Prob.  $c +$  Prob.  $d + \dots$

For multiplication, we have :

When the conjunction  $abcd \dots$  is not known to be false, then, taking an extra conjunct  $z$ , Prob. ( $abcd \dots$  and  $z$ ) = Prob.  $a \times$  Prob.  $b$  upon  $a \times$  Prob.  $c$  upon  $ab \times \dots \times$  Prob.  $z$  upon  $abcd \dots$

Let us apply the axiom of addition to show how, in the simplest typical case, probabilities can be measured by fractions.

A bag contains 8 red, 6 white and 3 black balls. What is the probability of drawing a red ? There are 17 possibilities, which may be symbolised as follows :  $b_1, b_2, b_3, \dots, b_{17}$ . Since we are certain of drawing one or other of these 17 balls, Prob. ( $b_1$  or  $b_2$  or  $b_3$  or  $b_4 \dots$  or  $b_{17}$ ) = Certitude. Since the drawing of one ball excludes the drawing of any other, by the axiom of addition,

$$\begin{aligned} \text{Prob. } (b_1 \text{ or } b_2 \text{ or } b_3 \text{ or } b_4 \dots \text{ or } b_{17}) \\ = \text{Prob. } b_1 + \text{Prob. } b_2 + \text{Prob. } b_3 + \dots + \text{Prob. } b_{17}. \end{aligned}$$

Lastly, if we assume that the probability of drawing any one ball is equal to the probability of drawing any other, then

$$\text{Prob. } b_1 = \text{Prob. } b_2 = \text{Prob. } b_3 = \dots = \text{Prob. } b_{17}.$$

Combining these three equations, we easily deduce that the probability of drawing any one assigned ball equals  $\frac{1}{17}$  of certitude.

Again symbolising the 8 red balls by the suffixes 1 to 8, we have again by the axiom of addition,

$$\begin{aligned} \text{Prob. } (b_1 \text{ or } b_2 \text{ or } b_3 \dots \text{ or } b_8) \\ = \text{Prob. } b_1 + \text{Prob. } b_2 + \dots + \text{Prob. } b_8. \end{aligned}$$

Finally, since each of the alternative probabilities =  $\frac{1}{17}$  of certitude, the required probability =  $\frac{8}{17}$  of certitude.

Although this example is extremely elementary, the logical principles upon which the conclusion is based must be carefully explained. The conclusion that we have reached is generally put forward as a mere *definition* of probability ; thus it is said that since, out of 17 possible cases, 8 would secure red, the probability of red is  $\frac{8}{17}$ . Here, of course, certitude is expressed by unity. This omission we may overlook ; and we may also allow the omission of the explicit statement that the 17 cases exhaust the *whole* possibility. But a serious defect in any such short statement is the omission of the axiom of addition upon which the conclusion essentially depends. This is an error, because in further developments—for example, in the problem of determining the probability of drawing red or white—if the axiom of addition were not separately introduced, the student would fail to realise that in assigning the probability  $\frac{14}{17}$  to the drawing of 'red or white', the same principle is involved as in assigning the probability  $\frac{8}{17}$  to the drawing of red. There is a still more fatal objection to that explanation of the probability fraction, which treats it as a mere matter of counting alternatives. No mere counting of the alternatives, apart from the assumption of their equiprobability, can yield a probability value : and no pure mathematician can authorise any such statement, since the assumption that different alternatives are equally probable must be given *to*, and not given *by*, the mathematician. It is a mistake to suppose that the science of mathematics is competent to measure probabilities. All that the mathematician can do is to express a required compound probability in terms of constituent probabilities : these latter are ultimately determined by considerations of common sense or philosophy.

The principle illustrated by the above elementary example can now be formulated in general terms :—

" Given  $n$  possible alternatives which are (a) collectively exhaustive, (b) mutually exclusive, and (c) equally likely, then the probability that one or other out of an assigned set of these alternatives is true, is  $\frac{m}{n}$ , where  $m$  is the number of alternatives in the assigned set."

This formula does not constitute a *definition* of the fractional evaluation of a probability, for two fundamental reasons. In the first place, it is derived from the axiom of addition. In the second place, it holds only on the assumption that the constituent propositions, counted as  $n$  or  $m$ , are equally likely ;

and to define the method of measuring probabilities in terms of the notion of the equally probable, would be to give a circular definition. It follows that this formula is of no use to the calculator until he is provided with a criterion for determining equality of likelihood.

Before discussing this criterion, it may be pointed out that the mathematician requires precisely analogous conditions, three in number, in order to measure *any* extensive magnitude. Take length for example. Before we can use the number 12 (say) to express the measure of a length, we must suppose the length to be made up of 12 parts, which are (a) collectively exhaustive of the whole length, *i.e.*, there are no gaps between the parts; (b) mutually exclusive, *i.e.*, the parts do not overlap; and (c) equally long. Thus, marking measurements on a foot ruler, for instance, we must be assured that the parts that we call inches are contiguous, without overlapping, and equal in length. Direct perception may perhaps secure the first two conditions, just as by logical intuition or formal analysis we may secure that a set of propositions are co-alternate and co-disjunct (exhaustive and exclusive). But to determine equality of length philosophical considerations are required, for this is not a mere matter of direct perception. And in precisely the same way the criterion of equality of likelihood is not a matter of obvious logical intuition, and has given rise in fact to the most profound differences of view amongst philosophers.

We have shown how the use of the axiom of addition for the measurement of probabilities depends ultimately upon a criterion of equiprobability derived from sources other than formal. We shall proceed to show that similar criteria are necessary for the practical application of the formula of multiplication. This formula introduces explicitly the notion that the knowledge of one proposition may affect the probability to be assigned to another. When no effect or modification of the probability of one proposition is produced by knowledge of another, then the two propositions are said to be independent of one another. Thus, if  $a$  and  $b$  are two propositions which are independent of one another, the probability of  $b$  as based upon the supposal of  $a$  is equal to the probability of  $b$  as determined without consideration of the special knowledge of  $a$ . Hence, as a corollary from the axiom of multiplication, we have the following formula:—

“When  $b$  is independent of  $a$ , then  
 $\text{Prob. } (a \text{ and } b) = \text{Prob. } a \times \text{Prob. } b.$ ”

This modification of the axiom of multiplication gives to it

the same simple form as the axiom of addition, which may be rendered :—

“ When  $b$  is incompatible with  $a$ , then  
 $\text{Prob. } (a \text{ or } b) = \text{Prob. } a + \text{Prob. } b.$ ”

The two formulæ are analogous in the further respect that the relations of incompatibility and of independence are both reciprocal, so that when  $b$  is incompatible with  $a$ , then  $a$  is incompatible with  $b$ ; and when  $b$  is independent of  $a$ , then  $a$  is independent of  $b$ . Now, just as any ratio of probability, and, in particular, the relation of equiprobability, must ultimately be determined on other than formal grounds, so also any ratio of dependence, and, in particular, the relation of independence, can be determined ultimately only on other than formal grounds. The analogy between the two problems can be shown by introducing the common supposal  $k$  to which the probabilities are all implicitly referred.

Let  $k$  be the common supposal, then we have :—

$$\text{Prob. } ab \text{ on } k = \text{Prob. } a \text{ on } k \times \text{Prob. } b \text{ on } ak$$

$$\text{Prob. } ba \text{ on } k = \text{Prob. } b \text{ on } k \times \text{Prob. } a \text{ on } bk.$$

$$\begin{aligned} \text{Now,} \quad & \text{Prob. } ab \text{ on } k = \text{Prob. } ba \text{ on } k. \\ \therefore \text{Prob. } a \text{ on } k \times \text{Prob. } b \text{ on } ak &= \text{Prob. } b \text{ on } k \times \text{Prob. } a \text{ on } bk \\ & \frac{\text{Prob. } b \text{ on } ak}{\text{Prob. } b \text{ on } k} = \frac{\text{Prob. } a \text{ on } bk}{\text{Prob. } a \text{ on } k}. \end{aligned}$$

The equality of these two fractions, or ratios, is one of the most important theorems in the theory of probability. The first fraction measures the effect or modification produced upon the probability of  $b$  by the knowledge of  $a$ . Apart from the knowledge of  $a$ ,  $\text{Prob. } b$  has a value represented in the denominator; when the knowledge of  $a$  is included, then  $\text{Prob. } b$  has the value expressed in the numerator. The ratio of the modified to the unmodified value may be called the ratio of influence of  $a$  upon  $b$ . Now  $a$  may either increase or diminish the probability of  $b$ ; and accordingly the fraction will be either greater or less than unity. Only when  $a$  produces no effect upon the probability of  $b$  is the fraction *equal* to unity. The second fraction has the same significance as the first, except that  $a$  and  $b$  have changed places; and the equality of the two fractions gives the important theorem that the ratio of influence of  $a$  upon  $b$  equals the ratio of influence of  $b$  upon  $a$ . Since the two values are equal, we may speak of a relation *between*  $a$  and  $b$ , to take the place of the two relations of  $a$  to  $b$  and of  $b$  to  $a$ . Their value will be called the ratio or coefficient of dependence between  $a$  and  $b$ . In the

particular case in which this ratio equals unity, the two propositions are said to be independent of one another, in the sense of the word 'independent' that belongs specially to the theory of probability, and which is a modification of the conception defined for purposes of ordinary logic. Two propositions are said to be formally independent when no assertoric knowledge of the one can be inferred from assertoric knowledge of the other. In the theory of probability two propositions are said to be independent when no effect is produced on the probability of one by assertoric knowledge of the other.

The principle underlying the axioms of addition and multiplication brings the notion of probability into connection with the greater or less determinateness of assertion. The more *indeterminate* the assertion, the *higher* is the degree of probability to be assigned to it. And, consequently, the more *determinate* the assertion, the *lower* is the degree of probability to be assigned to it. Hence the two axioms formulated at the beginning of this chapter are examples of a single principle; for, compared with the proposition "*p* or *q*" the proposition "*p*" is more determinate; and compared with the proposition "*p* and *q*" the proposition "*p*" is less determinate. We can, of course, relate propositions as more or less determinate only when one of them is an alternative or a conjunctive, containing the other as one of its alternants or conjuncts. Since no probability can be greater than certitude, and since no probability can be less than zero, the above two formulae of inequality may be written as follows (where Prob. *x* and Prob. *y* denote probabilities as yet unknown):—

$$\begin{aligned} \text{Prob. } (p \text{ or } q) &= \text{Prob. } p + \text{Prob. } x, \\ \text{Prob. } (p \text{ and } q) &= \frac{\text{Prob. } y}{\text{Prob. } p} \\ &= \frac{\text{Prob. } y}{\text{Certitude}}. \end{aligned}$$

These two formulae would naturally suggest that *q* could be written in place of *x* and *y*. In fact, when, later, we develop the arithmetic of probability, it will be found that under certain conditions this substitution may be made.<sup>1</sup>

The relations of inequality formulated above were expressed

<sup>1</sup> It will indeed be found convenient, in the further development, to express these relations in the following symmetrical form:—

Prob. (*p* or *q*) = Prob. *p* + Prob. *q* — Prob. *z*, where Prob. *z* is < Prob. *p* and < Prob. *q*.

Certitude  $\times$  Prob. (*p* and *q*) =  $\alpha \times \text{Prob. } p \times \text{Prob. } q$ , where  $\frac{1}{\alpha}$ . Certitude is > Prob. *p* and > Prob. *q*.

in terms of probabilities, without any indication of the supposal upon which the probabilities were to be evaluated. Where explicit reference to the supposal is omitted in any formula, it is to be understood that the same supposal runs through the various probabilities related. Let us now consider what happens when the supposal is explicitly introduced. The following formulæ will be taken as axiomatic for the present :—

Prob.  $p$  on supposal  $p$  = Certitude.

Prob. non- $p$  on supposal  $p$  = Zero.

Prob. ( $p$  and  $q$ ) on supposal  $p$  = Prob.  $q$  on supposal  $p$ .

Prob.  $p$  on supposal ( $p$  and  $q$ ) = Certitude.

Prob. ( $p$  or  $q$ ) on supposal  $p$  = Certitude.

The above formulæ follow from the principle that formal implication is a particular case of the probability-relation. Thus, the relation " $x$  implies  $y$ " is equivalent to the equation

Prob.  $y$  on supposal  $x$  = Certitude.

And when this relation holds,

Prob. ( $x$  and  $y$ ) on supposal  $s$  = Prob.  $x$  on supposal  $s$ .

Prob. ( $x$  or  $y$ ) on supposal  $s$  = Prob.  $y$  on supposal  $s$ .

The above formulæ give relations of inequality between probabilities, on the same supposal, of two propositions, one of which is more determinate or more indeterminate than the other. Thus, these formulæ connect different proposals referred to the same supposal.

We now pass to the converse case, where the same proposal is referred to different supposals, one of the supposals being more determinate than the other. Thus, Prob.  $x$  on supposal ( $p$  and  $q$ ) is to be compared with Prob.  $x$  on supposal  $p$ . Restating the formula for different proposals in order to compare it with that for different supposals, we have for the former :—

{ both Prob. ( $p$  and  $q$ ) on supposal  $x$  < Prob.  $p$  on supposal  $x$   
{ and Prob. ( $p$  and  $q$ ) on supposal  $\bar{x}$  < Prob.  $p$  on supposal  $\bar{x}$

for the latter :—

{ either Prob.  $x$  on supposal ( $p$  and  $q$ ) > Prob.  $x$  on supposal  $p$ .  
{ or Prob.  $\bar{x}$  on supposal ( $p$  and  $q$ ) > Prob.  $\bar{x}$  on supposal  $p$ .

Hence, whereas a more determinate proposal involves decrease of probability on any supposal whatever, a more determinate supposal involves an increase of probability for any given proposal or for its contradictory. If it increases the probability

of one proposal, it of course decreases the probability of the contradictory proposal. Every additional relevant item of information strengthens the probability of a given proposal or of its contradictory, and thus may be said to bring us nearer to certainty with regard either to the truth or to the falsity of the given proposition. The estimate of probability based upon increased knowledge may be said to have increased 'worth', whether this increase of knowledge raises or lowers the probability in question, or even leaves its value unaltered. By increased knowledge we mean a more determinate supposal, *i.e.*, a supposal equivalent to the introduction of an additional conjunct. The terms *prior* and *posterior* have been generally employed to indicate the modification, due to further relevant knowledge, that may arise in the measure of a probability. If the term 'prior' could be used in an absolute sense, then an absolutely prior probability would be one estimated upon no knowledge whatever. Such a notion is strictly speaking absurd, but I should wish to use the term 'absolutely prior' for the measure of probability based upon purely *formal*, as contrasted with material, or (as I prefer to call it) *experiential*, knowledge. Starting with a probability based upon merely formal knowledge, the worth of the probability assigned to any proposal is raised by the continual accumulation of additional experiential knowledge. In this way, the relatively posterior probability always has higher worth than the relatively prior. This reference to different degrees of worth attaching to different measures of probability of the same proposal helps to reconcile two fundamentally opposed views in the theory of probability.

We have not precisely explained the principle according to which the probability of any proposal depends upon, and may therefore vary with, the supposal to which it is referred. This is the epistemic principle upon the understanding of which the whole theory of probability depends. Although the relation of the supposal to the proposal is analogous to the relation of the implicans to the implicate, the latter being a special case of the former, yet from the epistemic standpoint these relations exhibit a very important difference. If we know *s*, and then infer *p*, on the ground that *s* implies *p*, it is sufficient for validity that we should *know s*. It is not required that we should know *only s*. Any additional knowledge, either previous or subsequent, will not impair the validity of our inference. Expressing this in the language of probability, when the knowledge of *s* imposes certitude upon *p*, then no further knowledge can diminish this certitude. Thus the knowledge which assigns the maximum

measure of probability to any proposition  $p$ , and thereby the minimum probability to the contradictory proposition  $\text{not-}p$ , is such that no further knowledge could diminish the former from its maximum value, nor increase the latter from its minimum value. The maximum value of the probability thus assigned is termed *certitude*, and the minimum value *contracertainty*; and it is a unique characteristic of certitude that no further knowledge can diminish it, and of contracertainty that no further knowledge can increase it. When the probability of any proposal lies between the maximum and the minimum degree, then an accession of further relevant knowledge is to be expected to increase or to decrease this probability; although, in cases where the acquired knowledge contains counterbalancing factors, the degree of probability may remain unchanged. To explain this more precisely, it is essential to understand the function of the supposal in determining the measure of probability to be assigned to the proposal. The supposal should represent the *whole* of our relevant knowledge; or, to put it otherwise, the probability assigned as dependent upon the supposal, is determined by considering the knowledge constituting the supposal *alone*. This principle is the supreme maxim giving practical significance to the evaluation of probabilities. A probability is falsely assigned when, in its calculation, we have omitted any relevant item of knowledge which special circumstances may have afforded us. It is true that many items of relevant knowledge are not such as to enable us to assign an *exact* measure of probability; but when any piece of knowledge is seen to be relevant, it will always modify the measure of probability, giving a closer range of possible value than could have been assigned without it. Our theory of probability must, in fact, provide for indeterminate evaluations, which are often of much greater practical worth than many of the exact evaluations that are presented to us by the pure mathematician or statistician.

Now the comparison of probabilities as being greater than, equal to or less than one another, requires, except in the most simple and elementary cases, postulates peculiar to the theory of probability. The two fundamental cases for comparison will be formulated as follows:—

- (1) Prob.  $b$  on  $ak$   $> =$  or  $<$  Prob.  $b'$  on  $ak$ .
- (2) Prob.  $b$  on  $ak$   $> =$  or  $<$  Prob.  $b$  on  $a'k$ .

In the first of these, we are required to compare the probabilities of different proposals on the same supposal; in the second, of

the same proposal on different supposals. The symbols  $b$ ,  $b'$  and  $a$ ,  $a'$  in the above were chosen to suggest that the primitive postulates of the theory deal exclusively with comparisons between determinates of the same determinable,  $bb'$  of the determinable  $B$ ,  $aa'$  of the determinable  $A$ . To illustrate comparison (1), let  $b$ ,  $b'$ , etc., stand for the colours white, red, etc., in drawing balls from a bag. The factor  $a$  in the supposal will stand for the knowledge that the bag contains a certain number of balls of assigned colours; and the factor  $k$ , all other relevant knowledge. In calculating probabilities on this basis, the two postulates involved are

- (1) With respect to each draw, one colour is as likely as another.
- (2) One proportion of colours represented in the bag is as likely as another.

The distinction between these postulates illustrates a fundamental question of principle in the theory of probability; whichever postulate is made, ignorance is the ground for asserting equiprobability. To show that the two postulates are quite distinct, we will consider how they function in the case when a bag is known to contain  $m$  balls of unknown colours: the postulate that one colour is as likely to be drawn as another, is equivalent to the assumption that the proportion of colours is most likely to be one of equality; whereas the second postulate, that one proportion of colours represented in the bag is as likely as another, is equivalent to an assumption which contradicts this; namely that equality is not more likely than any other proportion. The former we might call the extensional, and the latter the intensional postulate.

What holds of the fanciful illustration of a bag holds in the more practical case of persons presenting themselves to an Insurance Office. *E.g.*, let it be known that in the course of a year 1000 persons will present themselves in various conditions of health. The postulate that the next man to present himself is as likely to be one as another of these 1000 persons illustrates the extensional postulate; and the postulate that the next applicant is as likely to be in one as in another condition of health, illustrates the intensional postulate. So far we have taken the supposal to contain a practical minimum of workable knowledge: thus, if we knew the proportion in which different conditions of health were represented, our knowledge would confer greater worth upon our estimate of probability. In this case the extensional postulate—that one applicant is as likely as another to present himself—will give the result that the probability of

any assigned condition of health will equal the fraction which measures the total proportion.

Our account of comparison (1) may be summarised as follows: If a whole range of possible alternatives be represented by the symbol  $B$ , corresponding to the determinable, and divisible into alternants  $b, b', b'' \dots$ , then assuming that the probability of any one alternant is equal to the probability of any other, and that the total number of divisions is known to be  $m$ , the probability of any one is  $\frac{1}{m}$ .

To illustrate comparison (2), *viz.*,

Prob.  $b$  on  $ak > =$  or  $<$  Prob.  $b$  on  $a'k$

we will take the letters  $a, a', a'' \dots$  to represent different occupations, and  $b$  to represent a specific disease, say consumption. Then the probabilities compared will be that of a man being consumptive on the supposal of *one* occupation, and that of his being consumptive on the supposal of some other occupation. If then we enumerate all possible occupations, and postulate that the probabilities of the man's being consumptive are *equal*, whatever occupation we suppose him to have, then it can be formally shown that the value of this probability is equal to the probability based upon the *common* supposal, without reference to the different occupations. The common supposal here, which is represented by the letter  $k$ , may be taken to represent any wider class, such as Englishmen, to which the man is known to belong, and which is therefore the genus of which the various occupations are differentiated species.

It will help our exposition to draw an analogy at this point between comparison (1) and comparison (2). Under (1), postulating equiprobability for *all* the alternants  $b, b', b'' \dots$

Prob.  $b$  on  $ak =$  Prob.  $b'$  on  $ak =$  Prob.  $b''$  on  $ak = \dots = \frac{1}{m}$ .

Under (2), postulating independence for *all* the alternants  $a, a', a'' \dots$

Prob.  $b$  on  $ak =$  Prob.  $b$  on  $a'k =$  Prob.  $b$  on  $a''k$   
 $= \dots =$  Prob.  $b$  on  $k$

By equating the first and last expressions in the second formula the probability of  $b$  is seen to be independent of  $a$ , and hence, as we proved above, the probability of  $a$  is independent of  $b$ .

Although it is wrong to identify the measure of probability with a mere class-ratio, yet there is an exact correspondence between these two quantitative notions, such that all the

formulae for probability can be at once deduced from those of class-arithmetic, and thereby their intuitive necessity discerned.

Upon the supposed knowledge that a thing is  $s$ , the probability that it is also  $p$  corresponds to the numerical ratio of the species  $sp$  to the genus  $s$ . That is,

Prob. " $p$  upon  $s$ " corresponds to No. of species  $sp$   $\div$  No. of genus  $s$ .

Or again,

Prob. " $q$  upon  $ps$ " corresponds to  $\frac{\text{No. of species } pqs}{\text{No. of genus } ps}$ .

Thus if the species  $ps$ ,  $qs$  are co-exclusive, we have

$$\frac{\text{No. of } (p \text{ or } q)s}{\text{No. of } s} = \frac{\text{No. of } ps}{\text{No. of } s} + \frac{\text{No. of } qs}{\text{No. of } s}.$$

Again, introducing into numerator and denominator a common factor, we have

$$\frac{\text{No. of } pqs}{\text{No. of } s} = \frac{\text{No. of } ps}{\text{No. of } s} \times \frac{\text{No. of } pqs}{\text{No. of } ps}.$$

These two formulae for the addition and multiplication of class ratios correspond exactly to the two axioms of probability, *viz.* :—

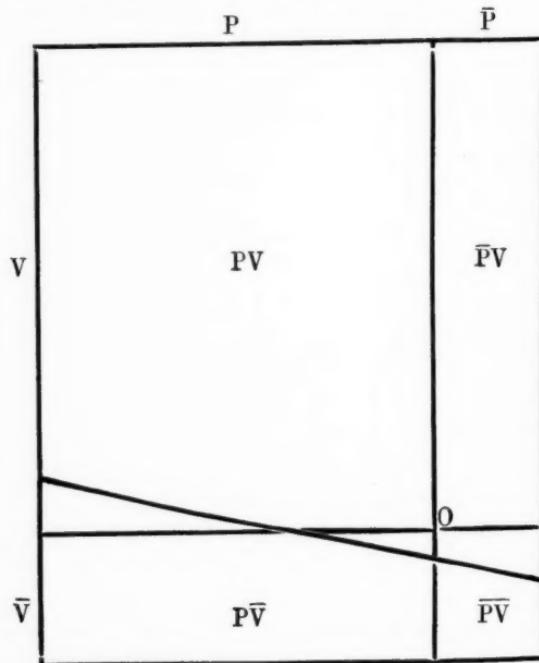
$$\text{Prob. } (p \text{ or } q) \text{ on } s = \text{Prob. } p \text{ on } s + \text{Prob. } q \text{ on } s$$

$$\text{Prob. } (p \text{ and } q) \text{ on } s = \text{Prob. } p \text{ on } s \times \text{Prob. } q \text{ on } ps.$$

To justify this alleged correspondence we must note that on the view of probability which has been called the frequency view, and which is especially associated with Venn, the statement that  $\frac{m}{n}$  = the probability of a thing being  $p$  that is known to be  $s$ , means nothing more nor less than that the ratio of the species  $sp$  to the genus  $s$  is  $\frac{m}{n}$ . Now although, according to the view maintained in my work, it is fundamentally false to assign this meaning to probability, nevertheless there are certain conditions in which the ratio measuring the probability is equal to the ratio of the classes. In ignorance of any details which particularise any given case, there is no reason for denying or doubting this equality: thus, if we knew only of an object that it was  $s$ , and if we knew that the ratio of the number of  $sp$  to the number of  $s$  was  $\frac{m}{n}$ , then relatively to this knowledge, the probability of an  $s$  being  $p$  would actually equal  $\frac{m}{n}$ . But if we

see the relevance of certain knowledge which we may have about a given object known to be *s*, then, on my view, it is irrational to refuse to consider this knowledge in estimating probabilities. Since, however, under specific conditions the two ratios would be equal, it follows that the universal axioms which hold for class ratios must necessarily hold for the probabilities. This necessary equivalence may be used to demonstrate the correctness of any probability-formula, in case the learner should fail to recognise its intuitive certainty.

Any relations between the numerical extension of classes which have been above expressed algebraically, may be realised figuratively by introducing diagrammatic representations like Euler's. Thus the universe may be represented by a rectangle which includes all subclasses that come into consideration; these sub-classes, in their various relations of exclusion and intersection, being represented by dividing lines.



Choosing the letters *P* and *V* to stand respectively for small-pox and vaccination, a line is drawn from top to bottom to divide the universe into the two classes *P* and *P*<sub>bar</sub>, and a line from left

to right to divide it into the two classes  $V$  and  $\bar{V}$ . In this way the whole universe is divided into 4 sub-classes  $PV$ ,  $\bar{P}V$ ,  $P\bar{V}$ ,  $\bar{P}\bar{V}$ .

Now these dividing lines may be so placed that the diagram shows not only the relations of exclusion and intersection of the classes, but also their comparative magnitudes. Thus suppose  $P$  to  $\bar{P}$  be as  $7 : 2$ , and let the vertical line of division be drawn to indicate this ratio. Again suppose  $V$  to  $\bar{V}$  be as  $8 : 3$ , and let a horizontal line be drawn at first to indicate this ratio, meeting the vertical line at  $O$ . Now, if, through the middle point of this horizontal divider, a slant divider be drawn in place of the horizontal, then the sub-areas  $PV$ ,  $\bar{P}V$ ,  $P\bar{V}$ ,  $\bar{P}\bar{V}$ , are modified so as to meet the general case. The multiplicative formula for the peculiar cases of  $P$  and  $V$  can then be written as follows :—

$$\frac{[PV]}{[U]} = \frac{[V]}{[U]} \times \frac{[PV]}{[V]},$$

where  $U$  represents the whole rectangle or universe of discourse.

It is easy to see how the two alternative ways of dividing the rectangle into the two classes  $V$  and  $\bar{V}$  correspond to the cases, (1) where the characters  $P$  and  $V$  are independent; (2) where they are dependent. Thus, when the dividing line is horizontal, the following relations hold,

$$PV = 8 \times 7 = 56.$$

That is to say, the proportion of small-pox amongst the vaccinated is equal to the proportion amongst the whole universe of persons; or, in other words, amongst the unvaccinated. This equality in the ratios would illustrate that the presence or absence of small-pox is independent of vaccination. And, in general, two characters are represented diagrammatically as being independent by the device of drawing both dividing lines parallel to the sides of the universe.

In the second case the divider has been drawn aslant so as to diminish the area  $PV$  to the advantage of  $\bar{P}V$ ; as also so as to increase  $P\bar{V}$  at the expense of  $\bar{P}V$ . If the line had been drawn upwards instead of downwards through the middle point of the divider, the opposite effects would have been indicated; *i.e.*,  $PV$  would have been increased instead of diminished, etc. As the divider has actually been drawn, it is indicated that vaccination has some influence in diminishing the proportional number of persons who get small-pox. This effect of vaccination upon the relative magnitude of the sub-classes might, tentatively, be accounted for causally. But in accord-

ance with the epistemic view of probability, which I adopt, we shall hesitate to introduce causality, and shall represent the influence of  $V$  upon  $P$  in estimating the probability of a person having small-pox, as based not upon a causal relation between vaccination and small-pox, but merely upon our supposed knowledge that the person has been vaccinated. In the general case, this distinction becomes of great importance; for the fact that a vaccinated person is less likely to have small-pox than an unvaccinated, might be due to the extra concern and caution of the vaccinated, which would be associated with other sanitary measures; these latter being the true cause of comparative exemption from the disease. Meanwhile the diagram with a slanting line equally well represents either the ratio of the subclasses, or of the probabilities.

Lastly we must observe that the multiplicative formula holds universally, whether  $P$  and  $V$  are or are not independent. When it assumes the simple form

$$\frac{[PV]}{[U]} = \frac{[V]}{[U]} \times \frac{[P]}{[U']}$$

or, translating it into probability language,

Prob.  $P$  and  $V$  = Prob. of  $V$   $\times$  Prob. of  $P$ ,

the formula represents, in general, the case where two conjoined characters are epistemically independent.

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## II.—TRUTH AND FALSITY.

BY G. F. STOUT.

I FEEL very grateful to Mr. Hoernlé for his criticism<sup>1</sup> of my essay on *Real Being and Being-for-Thought*. His 'difficulties' seem to me all to be due to defects in my essay; partly to defects of exposition, but also to defects in the way in which I have worked out my theory. In what follows, I approach the questions at issue in the same spirit as Mr. Hoernlé. I shall not attempt to defend what I have already written just because I have written it. While maintaining my central position more strongly than ever, I shall mainly try to meet Mr. Hoernlé's difficulties by correcting and by developing farther my previous statement of it.

Mr. Hoernlé's difficulties are evidently in part due to the absence in my essay of a sufficiently precise terminological scheme. I begin therefore by fixing more exactly, at least for the purpose of the present discussion, the sense in which I propose to use such terms as *real*, *actual*, *objective*, etc. About real and possible being I shall have more to say presently. It is sufficient to say at this point that for me *possible* and *real* are correlative terms, so that each possibility is relative to its own reality, as every question is relative to its own answer. Further, what is real is *a fortiori* possible. Hence my distinction between mere possibilities and fulfilled possibilities. All possibilities have a certain distinctive character which we distinguish by speaking of the possibility of this or of that—of pigs flying, of water's freezing, of finding gold by digging at a certain place and time. When this character is a character of the relevant real being, I speak of a fulfilled possibility, a possibility which is identical with the relevant reality so far as it is thus determined. There are other ways in which the term 'real' is used in ordinary language and by philosophers. Reality is frequently contrasted with deceptive appearances. This use of the term is easily connected with and derived from mine. A deceptive appearance is a possibility which in some way claims to be real though it is not so.

<sup>1</sup> MIND, N.S., vol. xl, No. 159 (July, 1931).

Reality is often contrasted with mere being-for-thought, the sort of being which Descartes ascribed to 'ideas'. But I hold that what has being-for-thought cannot have merely being-for-thought. If there are purely ideal contents in the Cartesian sense, then as such they really exist and are not unfulfilled possibilities.<sup>1</sup> My position is that what some hold to be purely ideal contents are objective possibilities. Though possibility as such is not reality, there really are possibilities which are objective in the sense that they are inherent in the constitution of the universe with which the mind deals and do not owe their existence to being thought of.

This is the sense in which I propose to use the term 'objective'. Understanding the word in this way, the question arises whether there are any characters of the object which are not objective. Mr. Hoernlé has drawn attention to certain characters of objects which belong to them only so far as they are, or are capable of being, objects of thought and interest. Under this head come truth and falsity, goodness and badness, beauty and ugliness. True and false are adjectives which essentially involve reference to a believing or inquiring mind. It has been said that the proposition  $2 + 1 = 3$  would still be true even if there were no mind in the universe. We may admit this, provided we take into account possible relations to a possible mind. If there were a mind capable of raising the question, for this mind it would be true that  $2 + 1 = 3$ . Apart from all reference even to the abstract possibility of a believing or inquiring mind, the words *true* and *false* entirely lose their distinctive meaning, though the difference between real and unreal (fulfilled and unfulfilled possibilities) remains. But truth and falsity are not primarily characters of mind or of any mental process. When I say that I believe truly I mean that what I believe is true. They are characters of the object. But are they objective characters? In the wide sense in which I am using the term 'objective' they certainly are so. Nothing is rendered true or false by anyone's believing that it is true or false, or by anyone's inquiring whether it is so or not. This depends on the nature of real being, independently of what anyone thinks. Truth and falsity are indeed relative to mental process, but the process is that of inquiring whether something (a possibility) is real, or asserting or denying its reality. It is not that of considering whether a judgment or proposition is true or false, or of asserting it to be true or false. This attitude is

<sup>1</sup> Hence the distinction between the formal and objective reality of an idea is one which Descartes had no right to make.

secondary, and presupposes the primary relation of a thinking mind to reality.

Such secondary characters as *true* and *false*, and the corresponding nouns, are, I suggest, best described by the scholastic term 'intentional'. They are many and various. They include not only judgments and supposals but also questions. A question is not merely constituted by asking it. Real being must have a character which makes it possible to ask questions about it. When I say that it is a real question whether the Five Years' Plan will succeed or fail, I am primarily asserting something about conditions in Russia, not about the mind which is considering these conditions. In general, to discuss a question or problem is not to discuss mental states, unless the question or problem happens to be psychological.

Another intentional term which is for me very important is 'proposition'. By a proposition I mean what Meinong calls an 'objective'. It is best represented in language by such phrases as 'that *a* is *b*', or '*a* being *b*'. It is a factor common to judgments, supposals and questions. I may affirm or deny that *a* is *b*. I may inquire whether *a* is *b*; I may merely suppose *a* to be *b*. The object in such processes, considered as something proposed or capable of being proposed to the mind, is a proposition. As I maintain, propositions are just possibilities considered as proposed or capable of being proposed to a thinking mind. A proposition is the intentional term corresponding to the 'formal' term possibility.

I have yet to consider the use of the word 'actual'. In my essay I used 'actual' as virtually synonymous with 'real'. But this usage is very inconvenient. As I shall presently urge, what is real relatively to one possibility may be only possible relatively to another. It is better to apply the term 'actual' only to particular existence such as is given in experience as ultimately real. I propose to designate by it a way of existing for which I can find no other appropriate name in ordinary or technical language. I refer to the way in which, for example, a pain exists when it is being felt, or the content of a sensation when it is being sensated. In such cases I call both the experiencing and what is being experienced 'actual'. Whether Berkeley was right in holding that nothing is actual except actual experiencing and what is actually experienced by some mind, we need not here consider. The question does not occur at all to common sense. If anything exists without being actually experienced as it would exist if it were actually experienced, then it is so far actual.

It is important to distinguish from mere actuality what I shall call concrete reality, *e.g.*, my existence or that of a tree. My whole being includes my actual states and processes, but includes far more than this. It includes my share in the universal nature which is in some sense common to me and other things. It includes at any moment my past and future as such, though these are not at that moment actual. It includes endless possibilities, many of which are never actualised. Actual existence is only a factor, though an indispensable factor, in what is concretely real. By itself it would be a poor thing.

Before dealing directly with Mr. Hoernlé's difficulties I shall clear the way by a brief sketch of my own theory, which may be compared with Mr. Hoernlé's tentative statement of his own alternative view. The first essential point is one in which Mr. Hoernlé says that he agrees with me.<sup>1</sup> "I agree," he says, "with Prof. Stout that the act of judgment must be concerned with what really is. It is something real which we intend to characterise as it really is." I doubt whether Mr. Hoernlé does in truth fully agree. It is vital to my position that the reality that we intend to characterise must itself be directly present to thought. But Mr. Hoernlé seems to interpose between it and the thinking mind what he calls 'symbols' or their meanings. His reason is that the intended reality need not be and in general cannot be actually experienced. I do not of course deny that this is true. The reality which is the immediate object of thought must, I should say, be essentially connected with what we actually experience. But it may itself be actually experienced only very partially or not at all. None the less the reality is itself an immediate object of thought. The immediacy of thought and not merely the immediacy of sense is cardinal in my theory.

How then is error or the risk of error possible in characterising real being which is immediately present to the mind? This is precisely the central problem which we have to consider. Following Plato in the *Theaetetus*<sup>2</sup> we may put the difficulty in the form of a dilemma. We cannot make a mistake about anything unless it is present to thought; but we cannot make a mistake about it if it is present to thought.

The first indispensable step in dealing with this difficulty is taken by Plato in the *Republic*. What is immediately present to the thinking mind is so only imperfectly. We have to consider more precisely wherein this imperfection consists. The problem may be approached both from the side of the subject and from

<sup>1</sup> MIND, N.S., vol. xl., No. 159, p. 282.

<sup>2</sup> *Theaetetus*, 188 (a-c).

that of the object. From the subjective side the imperfection can only be ignorance in the positive sense in which ignorance presupposes a thinking mind, capable of knowing, or at least of inquiring about, what it is ignorant of. Such ignorance must, as Ferrier insists,<sup>1</sup> be sharply distinguished from the blank "nescience" which one may ascribe to a stone. Every explicit assertion is the answer to a question, definite or indefinite, expressly formulated or vaguely suggested. Implicit judgments in which something is unconsciously taken for granted are answers to potential questions. Ordinarily I take for granted that I am sober. If someone suggested, directly or indirectly, that I was drunk, this would at once become an explicit assertion. Judging then presupposes inquiry, actual or potential. But what is involved in asking a question? First, as Plato notes in the *Meno*,<sup>2</sup> in order really to ask a question we must in a sense already know what it is that we want to know. But in what sense? This brings us to the second point. Questioning involves the thought of a set of incompatible alternatives. In asking a question we know what it is that we want to know in knowing that one or other of these alternatives is the right answer. But we do not know and have not decided, rightly or wrongly, which it is. What account are we to give of these possible alternatives? They cannot be creatures of thought. To say that we produce them by thinking of them is self-contradictory. On this view they have no existence before they are thought of and yet we must think of them before they can exist! What is true is that their intentional character as *propositions* is due to their relation to the thinking mind. But apart from this, and as a precondition of it, they must have an objective being inherent in the constitution of the intended reality with which the mind is dealing in questioning, judging and supposing. The alternatives must be alternative possible determinations of this reality in its concrete fullness. But in what way? I answer that the objective being of possibilities stands or falls with the objective being of universals. If anyone thinks that we make a whale a whale rather than a hedgehog by thinking of it as such, I have nothing to say to him. The intended reality has a general nature which, just because it is general and not because of our ignorance, is capable of being specified in different ways and must be specified in one of them to the exclusion of the others. The others enter into the constitution of the concrete reality as mere possibilities and not as realised possibilities. Intended reality is present to the mind in

<sup>1</sup> *Knowing and Being*, Part III.

<sup>2</sup> See discussion in 80-86.

a way which accounts for error, so far as we know its general nature without knowing how this general nature is specified or particularised.

There are degrees of generality passing from the more general to the more special. These degrees of generality are not inconsistent with each other. On the contrary, what is a dog must be animal, and what is animal may *qua* animal be a dog or a lion. Each grade of generality has its own field of possibilities, the more general including all that is included in the more special, and others which the more special excludes. But this holds good only if we take into account mere possibilities. Possibilities which do not merely exist but are also real remain possibilities at all stages of generality. Here the reader may be tempted to urge that after all mere possibilities are only creations of thought. Now I admit that the words 'possible' and 'possibility' and 'may be' very often have an intentional significance. What I contend for is that this significance presupposes a significance which is not intentional but 'formal'. Consider the argument: "*A* is either *B* or *C*; it is not *B*; therefore it is *C*." In the context in which it is asserted that *A* is either *B* or *C* it may be implied that the speaker does not know which it is, and this is very frequently the case. But "*I* do not know whether *A* is *B* or *C*" presupposes that *A* is either one or the other without reference to anyone's knowledge or ignorance. Otherwise the minor premise '*A* is not *B*' is irrelevant, and there is no valid inference.

Hence follows the relativity of possibilities to varying grades of generality. What is merely possible in reference to a wider generality may be relatively real or not possible at all in reference to a narrower. The limit is reached in concrete reality. What is possible in relation to the whole relevant concrete reality cannot be merely possible for any stage of generality. It must be real though it may not be known or believed to be so, or even thought of at all. The importance of this relativity in accounting for the doctrine of error may be illustrated by an example from the *Theatetus*. A man may ask himself, 'what is  $7 + 5$ ?' and he may answer 11. But how can there be any possibility of  $7 + 5$  being 11? It is necessarily 12. If then a proposition is a possibility, how in this case can there be a proposition capable of being either asserted or denied or in question at all? I reply that 5 and 7 are really integral numbers belonging to a certain region of the series of integral numbers. In reference to these highly general conditions and to these only,  $7 + 5$  is capable of being 11 or 13, as well as 12, and the question may arise which it

is. On the other hand, in reference to the real specific nature of the numerical groups 7 and 5, as it is brought before the mind by counting them unit by unit, there is no possibility, and none therefore can be thought, except  $7 + 5 = 12$ . The statement  $7 + 5 = 11$  is rightly said to be nonsense.

In asserting  $7 + 5 = 12$  we are asserting what is real, to the exclusion of other alternatives possible from the more general point of view. But we are still asserting only a relation of possibilities, not concrete reality in actual existence. The judgment would be true even if there were no concretely real numerical group of 7 and 5. What we are concerned with is only the general relation of number and the possibilities arising out of it. Consider, on the other hand, the judgment "This group of seven cows in this field and this other group of five cows in the same field together make twelve cows." In asserting this we are asserting what, if it is real, must be finally and not only relatively real.

I have now stated my own position more correctly and precisely than in my earlier essay. In so doing I have, I believe, virtually met nearly all Mr. Hoernlé's difficulties. But to show this I must expressly deal with some of them as he states them.

Mr. Hoernlé begins with a difficulty which he takes to be merely verbal. I have said in my original essay: "A possibility and its fulfilment are so related that the thought of the first involves the thought of the second." Mr. Hoernlé objects that "construed literally, this might be taken to mean that an unfulfilled alternative is unthinkable."<sup>1</sup> He accordingly suggests an interpretation which is not at all to the point, though it involves a principle which I accept. In writing this passage which he quotes I certainly meant my words to be taken literally. But I admit that my language is somewhat loose and ambiguous. It may be made verbally correct, from my point of view, by speaking only of the thought of an alternative's being fulfilled, and not of the thought of its fulfilment. But the distinction between 'being fulfilled' and 'fulfilment' is not recognised in ordinary language, and as a technical distinction it needs to be explained. I must therefore restate my position so as to clear up this point. A possibility as such is always a possibility of being real. To think of it therefore is to think of it in relation to a correlative reality. It follows that when a possibility is present to the mind its correlative reality must also be in some manner and degree present to

<sup>1</sup> MIND, *loc. cit.*, p. 273.

the mind. But how? I have already indicated the answer to this question. We start from an intended reality known as having a certain general nature which, just because it is general, is determinable, and must be really determined in one or other of a variety of alternative ways to the exclusion of the rest. The real determination is present to the mind as being identical with one or other of the alternative possibilities inherent in the general nature of the intended reality. What really is may, in this imperfect way, be present to the mind, without all or even any of the alternatives being separately distinguished in their specific characters. They may all be indiscriminately thought of together as involved in the general nature of the intended reality from which we start. This is what happens, for instance, when we simply inquire, 'Where is that?' or 'What is this?'

I now pass on to consider the case in which some at least of the alternatives are specified, as when we ask, "Is this a man or a tree or an illusion of the senses—or what?" If we consider any one specified alternative, the reality in question is either identical with this or with some other alternative specified or unspecified. If it is identical, then what is present to the mind is relatively real and not a mere possibility. What really is may be really thought of, even though it is not believed or supposed to be real. We may think of the right answer to a question without knowing or believing it to be the right answer. When what really is is not only identical with the specified alternative but is asserted to be so, there is a true affirmative judgment. The judgment is true because it asserts what really is, not because it asserts something that agrees with or corresponds with or represents or resembles what really is. Suppose next that the reality in question is identical with some other than the specified alternative. Then the affirmative judgment is false and the negative true. Mr. Hoernlé rightly complains that I have given no account of negative judgments and have hardly considered them at all. But it is quite easy to find a place for them in my scheme. We make a negative judgment, when among incompatible alternatives we assert the one which is realised to be other than a certain specified alternative, and do not specify which it is. The word 'not' used as a copula seems always to have this meaning. In my essay I said, in agreement with Plato, that 'not' is simply equivalent to 'other than'. This view requires correction. Otherness is indeed always involved in the import of 'not' in all its applications. But something more, I hold, is meant by it when it is used as the copula in a negative proposition. The reference there is to a range of incompatible alternatives, and 'not' means

‘other than a certain specified alternative.’<sup>1</sup> Such propositions as “That red is not blue,” “That motion is not identity,” and indeed all the examples given by Plato may seem to be exceptions. For in them we can simply substitute ‘other than’ for ‘not’. But in such instances we ought, I think, to regard the ‘not’ as belonging to the predicate.

I have now explained why I hold that in a true judgment we assert what really is and not merely something agreeing with what really is. But I have yet to deal with one of Mr. Hoernlé's difficulties which I have myself placed in his way by a rash and ill-considered statement.<sup>2</sup> That he stumbles over it is my fault, not his. The whole trouble arises from the passage in which I say that, at least where there is risk of error, ‘if we consider only what is directly asserted, . . . this is, in the case of both truth and error, the fulfilment of a possible alternative, and not the fulfilled alternative itself’. This statement is wrong, and if it were right it would ruin my whole position. In a true judgment the fulfilled possibility itself is and must be present to the thinking mind. What I ought to have said is that it may be only imperfectly present to thought when it is present only as a fulfilled possibility, *i.e.*, as the answer to a question. To understand in what way it is or may be imperfect we must remember that all questioning starts from an intended reality known as having a certain general nature. In questioning, and therefore in judging and supposing, we are dealing with possible special modes and particular instances of a universal as such. What we decide or seek to decide is which of these is identical with what really is—with the reality in question. Now when the reality in question is actual existence, or the concrete being which essentially includes actual existence, it must be something more than an instance of a universal. It must be something more than an instance even of actual existence in general. This something more is itself present to the mind only in being actually experienced, and is not merely an object of thought in the form of a proposition. In remembering having been pleased when I am no longer pleased, the past experience is present to my mind as an instance of actual existence in general, and as an instance of pleasant experience in general. It is really such, and so far what is present to the mind is identical with what really is. The judgment ‘I felt pleased’ is

<sup>1</sup> Thus in “This ball is not white” the ‘not’ cannot merely mean ‘other than’, for the ball is round, and ‘round’ is other than white but does not exclude ‘white’. The meaning must be that the ball has some character which is not merely ‘other than’ but ‘incompatible with’ whiteness.

<sup>2</sup> MIND, loc. cit., p. 278.

true. But there is something wanting, and known to be wanting, which was present when the feeling was being felt. On the other hand, actual experience taken by itself apart from all questioning or judging, however vague, would also constitute a very imperfect presence to the mind of what is actually experienced. This would not be present to thought at all, for there would be no thought. Hence there would be nothing that could be properly called cognition or awareness.<sup>1</sup> I agree with Mr. Hoernlé that direct (actual) experience is 'evidence of actual existence', but does not 'necessarily constitute actual existence', except on a theory of the Berkeleyan type. Actual experience is evidence of the actual existence of what is actually experienced; it is also an indispensable condition of the evidence for all other actual existence.

The word 'evidence' suggests another problem which may be approached by considering two other points raised by Mr. Hoernlé. The first concerns the distinction between merely thinking of something and the special acts or mental attitudes of questioning, believing and supposing. The second concerns the conditions which determine the mind to pass from merely thinking of something to the more special acts. On both these points my previous exposition is seriously defective. On the first Mr. Hoernlé, quite excusably, ascribes to me a view which I never definitely accepted and now definitely reject. He makes me hold that merely thinking of something is by itself a separate mental act and a prior stage from which we pass to more special acts. What I do hold is that 'merely thinking of' is an abstraction which has its being only as a common factor in the process of questioning, judging and supposing. In asking whether *A* is really *B*, in asserting or denying that *A* is really *B*, and in merely supposing that *A* is or is not really *B*, I must think of *A*'s really being *B*. This common factor is the proposition 'that *A* is *B*'. Oxford philosophers are quite right in disliking the term 'proposition', if they take it to imply that the mind can merely entertain a proposition without at least asking the vague question—'What about it ?'

If there is no mere thinking, as a separate act, there can be no transition from it to other acts. But we have still to consider the different conditions which determine us at one time to inquire, at another to assert and at another to suppose. For our present purpose it will suffice to examine the relation of questioning and

<sup>1</sup> This is the conclusion reached by Plato in the *Theætetus* in his criticism of the theory that knowledge is sensation (184b-186e).

believing. In my essay I have assigned a number of psychological conditions which determine belief. But in one respect my treatment of this topic is unsatisfactory. I ought to have insisted that the conditions can never be purely subjective. The difference between inquiring 'What is *A*?' or whether *A* is *B*, and believing *A* to be *B* is always ultimately determined by the relevant objective context in the moment of believing. In other words, it is determined by some sort of *evidence*, however inadequate this may be. Other psychological conditions such as ignorance, inadvertence and bias, operate only by making a difference to the way and degree in which the objective evidence is present to the mind at the time. Bias cooks the evidence, or, to use a phrase of Ward's, 'packs the jury'. Let us first consider implicit beliefs, *i.e.*, those which are not preceded by a question, however vague and transient. Belief of this kind is what in ordinary language is called 'unconsciously assuming' or 'taking for granted'. In sitting down on a chair that I habitually use, I take for granted, without expressly asserting, even mentally, that it will support me. In going to see a person, I ordinarily take for granted that he is still alive and sane. Such taking for granted becomes explicit assertion only when it is in some way suggested that what really is may be other than it is assumed to be. Implicit judgments depend on a principle which has been virtually stated by Mr. Hoernlé at the outset of his article.<sup>1</sup> A possibility is believed to be identical with what really is when there is nothing to suggest the contrary in the whole objective context so far as this is present to the mind at the time.

Following out this principle, we have to inquire whether implicit judgments must always have some objective ground or reason. In other words, are they always founded on evidence—adequate or inadequate? The general principle formulated above may seem at first sight to imply that all that is required is the absence of evidence to the contrary. To use Spinoza's illustration, to think of a winged horse without the thought of any incompatible alternative possibilities is, according to the principle, to affirm that there really is a horse with wings. Such primitive credulity is most nearly approached in dreams and hypnosis. But there is perhaps no pure instance of it. Nevertheless, it is a question of great theoretical importance, whether beliefs occurring in this way would have any objective basis,

<sup>1</sup> MIND, loc. cit., p. 274. By 'thinking of a possibility as fulfilled' he plainly means what I do not mean by it, *believing* the possibility to be fulfilled.

however slender. As Mr. Hoernlé and I agree, the mind in all questioning and judgment is ultimately dealing with some intended reality present to thought. Belief has an objective ground, and can therefore be properly regarded as based on evidence, so far as it is due to the nature of this reality. But as the reference to an intended reality is always present and indispensable, no judgment, explicit or implicit, can be merely due to subjective conditions. In implicit judgment one possible determination of the intended reality is alone present to the mind, so that there is no thought of alternatives, and consequently no search for alternatives. This may be, and very frequently is, due to subjective conditions in the way of inadvertence, bias or ignorance, affecting the individual in a certain stage of his life-history. In this way the child or the uninstructed adult takes for granted that the earth is flat and motionless. On the other hand, the evidence for what is taken for granted may be quite adequate. The nature of the intended reality may be such, or may seem to be such, as to exclude all possible alternatives except that which is alone present to the mind and unconsciously assumed to be real. This holds, for instance, for the special application of the law of contradiction, which pervades ordinary thought long before the highly general point of view is reached at which it can be formulated in its abstract generality.

In implicit judgment what is the attitude of the mind towards intended reality? We must here qualify the statement that an implicit judgment is not introduced by any previous question. It is indeed true that when we take for granted that *A* is *B*, we do not first ask even in a transient and perfunctory way whether *A* is *B* or not. But so long and so far as we are mentally alive at all, there is always a more general and indeterminate attitude of interrogation towards some intended reality and through it towards the world in general. This is involved in the essentially prospective nature of attention. We are always inquiring—What more? or What next?

Passing to explicit judgments we have to consider how, in them, insufficient evidence can determine belief as if it were sufficient. Here the principle is *mutatis mutandis* the same as for implicit judgment. Owing to subjective conditions, partial evidence persistently preoccupies attention to the more or less complete exclusion or obscuration of counter-evidence. Taken in a fuller context such evidence might warrant only some degree of probability, which may be very slight, that *A* is *B*. But when it thus has the field to itself, it determines either an exaggerated estimate of the probability that *A* is *B*, or the simple unhesitating

belief that *A* is *B* without reference to probabilities. A man, for instance, takes a ticket in a lottery where the prizes are very valuable. His vivid personal interest in his own success leads him to dwell on this in a very one-sided way, so that the chances of other ticket-holders are only faintly present to his mind. Hence though at times he may try to remind himself that his chance of a prize is very small, yet in general he cannot help greatly exaggerating it. A child or weak-minded person may in this way come to disregard probabilities altogether and simply to expect a prize with a degree of confidence measured by the degree of his disappointment when he finds that he has failed to get one.

I have already spoken of ignorance in general as an essential condition of all error and risk of error. But in considering how insufficient evidence may be taken as sufficient I have now to take account of a more special application of the word in which it is relative to the stage of cognitive development reached by the individual. The general field of ignorance which is always open to the inquiring mind is explored only step by step and only in the direction of the individual's interests. In this progress some questions cannot even be asked before others are asked and answered. Others again may be asked, but in the absence of right answers to previous questions the evidence is insufficient without any motive for suspecting its insufficiency. The child is incapable of understanding the technical problems of astronomy, and *a fortiori* of raising them himself. But he can ask himself whether a star is larger or smaller than a candle flame. In his ignorance of astronomy, he will answer that it is smaller. He will do so on the ground that it looks smaller. The evidence is insufficient; but at this stage of his mental development there is nothing to suggest its insufficiency. It is needless to speak of the effect of preformed false beliefs. Plainly prior error is a most fruitful source of further error.

In conclusion, I have to meet what has no doubt been felt as a serious difficulty by some readers, though it has not been raised by Mr. Hoernlé. I have throughout assumed that a belief may be true though the evidence for it is insufficient. In other words, I accept the Platonic distinction between true opinion and knowledge. Readers brought up in the school of Bradley and Bosanquet are likely to find this a stumbling-block. They may argue as follows: "What is believed is admittedly believed on evidence taken as sufficient; if therefore it is insufficient, the belief cannot be true." I admit that when anyone takes for sufficient what is really insufficient evidence that *A* is *B*, or that

*A* really exists, he is so far in error. But his belief that *A* is *B* need not therefore be false. It is true, however he came by it. *A* in reality is *B*, so that what he believes is identical with what really is. If a man is on the right road to the place he wishes to reach, he is so even though he has hit on it by chance.

I ought to add that I do not regard judgment about probabilities, just because they are about probabilities, as always based on insufficient evidence. They may or may not be so. Very commonly the evidence for them is amply sufficient to justify what is asserted, *i.e.*, some degree of probability which may be vaguely defined. If I assert that it is more likely than not that I shall be alive five minutes hence, my judgment is true and certain, even though in fact I die in the next minute. There is a given situation of a certain general nature. This general nature admits and is seen to admit of a wider range of possibilities of my living through the next five minutes than of my dying before they have elapsed. The greater likelihood that I shall continue to live is, if not constituted by this ratio of possibilities, at least immediately and evidently dependent on it.<sup>1</sup> So regarded, probability, instead of being opposed to certainty, is the very citadel of certainty.

<sup>1</sup> My view of Probability follows from my view of Possibility. If possibilities are objective, probabilities must be objective. If possibility is relative to degree of generality probability must be so too. The probability that Jones *qua* man will live to a certain age is different from the probability that Jones *qua* man with a weak heart will live to that age. The more specific the probability the stronger it is.

### III.—TWO PROBLEMS ABOUT DUTY (III.).

BY W. A. PICKARD-CAMBRIDGE.

#### II. IDEAL UTILITARIANISM AND INTUITIONISM (*Cont.*).

(b) *That in the decision which of the *prima facie* duties is the absolute, actual duty in the given circumstances, the balance of good or evil at stake is the determining consideration.*

The Provost of Oriel tries to show that this is not so, but that instead, we decide by an intuition, resulting in a probable, though highly fallible, opinion that of the *prima facie* duties with which we are confronted, one or other is "more of a duty", or is "more urgent", or "more incumbent", or "more stringent". He tries to disprove the ideal utilitarian case by examples. My general reply is that in the examples taken the scales are unfairly weighted.

Thus, to prove that it is not by consideration of how to do what is best that we adjudicate the rival forces of a *prima facie* duty to fulfil a promise, and of a *prima facie* duty to do the most good we can, he writes as follows: <sup>1</sup> Though we do not think it is necessarily our actual or absolute duty to fulfil the promise irrespective of the precise goodness of the total consequences, yet "we are far from thinking that any, even the slightest, gain in the value of the total consequences will necessarily justify us in doing something else instead. Suppose . . . that the fulfilment of a promise to A would produce 1000 units of good for him, but that by doing some other act I could produce 1001 units of good for B, to whom I have made no promise, the other consequences of the two acts being of equal value, should we really think it self-evident that it was our duty to do the second act and not the first? I think not . . . Only a much greater disparity in value between the total consequences would justify us in failing to discharge our *prima facie* duty to A . . . To produce 1001 units of good for B rather than to fulfil our promise to A would be to

<sup>1</sup> Ross, *The Right and the Good*, p. 34.

take, not perhaps our duty as philanthropists too seriously, but certainly our duties as makers of promises too lightly."

This is plainly an inadequate statement, because it regards only the personal gains to A or B, and supposes that "other consequences of the two acts" are "of equal value": but this they never are. We have also to consider the value of fidelity to A as tending to maintain, and of infidelity as tending to disintegrate, the whole system of good faith in society. Hence, the immediate reply from the utilitarian side<sup>1</sup> is that the comparison so drawn is unreal. To arrive at the value of fidelity, to the 1000 units of good done personally to A we must add  $x$  units done to the social fabric generally, while to arrive at the value of infidelity, in order to allow for the evil done to the society fabric generally by our breach of faith, we must subtract  $y$  units. Hence, we have to compare  $1000 + x$  with  $1001 - y$ ; and then the verdict indicated is clearly that the promise should be kept.

To counter this, the Provost then supposes a case in which the advantage to B, the third party—who may be an individual, or may be some cause of public interest (artistic, literary, dramatic, political, etc.)—is so great as clearly to outweigh by a definite, if small, amount ( $z$ ) all the personal advantages to A, and any advantages ( $x$ ) to accrue to the public interest from fulfilment of the promise, and at the same time to wipe out any disadvantages ( $-y$ ) likely to come to the public from the breach of it: *i.e.*, it is an advantage equal to  $1000 + x + y + z$  units of good. The account will then stand, on the one side, in favour of a fulfilment of the promise,  $1000 + x$  units of good, and on the other side, in favour of a breach of it,  $1000 + x + z$  units:<sup>2</sup> and stated in this way, it looks at first glance as if the mere balance of  $z$  units on B's side were not enough to 'break' (as it might probably be put) the 'force of the promise' to A; for  $z$  may *ex hypothesi* be as small a sum as you please, provided only it be large enough to be clearly recognizable. This seems at any rate to be how the Provost thinks our moral judgement would pronounce; and his argument is that it sufficiently refutes the ideal utilitarian claim to give the true account of its working by a consideration of the balance of good and evil involved: for does not a utilitarian calculation here bring out a definite, if small, balance of good on the side of breaking the promise, where yet our conscience would decide for keeping it?

We may, however, question whether the reason why the utilitarian analysis here seems to miscarry may not after all be

<sup>1</sup> Quoted on p. 38.

<sup>2</sup> P. 39 top.

only because it has been inadequately stated. Let us grant that the analysis given on pp. 38-39, in which the general effects upon credit of a fulfilment or breach of promise are taken into the reckoning, is much more adequate than the first analysis suggested (p. 34), where they are left out of account. Even so, it seems still to be faulty and incomplete. Of what elements does the 'force of the promise' to A consist? Partly it consists of an obligation not to weaken by example the general system of credit in society, as any breach of promise, if and in so far as it comes to be known, must tend in some degree to do. That this lends *some* added force to a promise the Provost seems disposed to agree, though he thinks it liable to be 'greatly exaggerated'.<sup>1</sup> Partly (and this is normally, no doubt, the main strand which binds the promiser to the fulfilment of his promise, in any civilised society which does its best, as civilised societies mostly do, to stamp out breaches of contract, promise, etc., and to stop the spread of infection by all the sanctions, legal or social, at its command) it is a personal link between the promiser and A: having pledged himself to humour A's desires, he must not now lightly disappoint him.

Now of these strands the first (normally the weaker) is frankly taken into account in the revised analysis<sup>2</sup> which we are considering. In arriving at the figure  $1000 + x + z$ , that particular (and usually minor) strand in the 'force of the promise' is already broken. The good to public credit ( $x$ ) which fulfilment of the promise is likely to entail, the harm to public credit ( $-y$ ) which is likely to follow a breach of it, have been estimated, and the personal advantage to B put up to such a figure ( $1000 + x + y + z$ ) as will clearly include compensation for the loss of the first (*i.e.*, of  $x$ ) and cancellation of the second (of  $-y$ ). Accordingly, all that part of its force which a promise normally derives from considerations of the general interest, and the necessity of keeping public faith alive, has *ex hypothesi* disappeared. It is, by agreement, outweighed and cancelled out in the greatly enhanced value of the benefit which I am now supposed to be conferring on B. There is no more good to be got by keeping my promise for that purpose, than by breaking it to benefit B: for while to keep it will be to secure  $x$  units of good by the support of public credit, to break it will also bring what are agreed to be  $x$  units of good, *viz.*, advantages admitted *ex hypothesi* to be of equal importance and value, and included in the signal and preponderant personal services which I now can do to B, if I break

<sup>1</sup> P. 39.

<sup>2</sup> Pp. 38-39.

my promise, as compared with the 1000 units of good only which I should do to A by keeping it.

We are therefore entitled to treat all the advantage to public credit which generally attends the keeping of promises, and supports an argument for the keeping of them, as thus neutralised and washed out in this case—in the language of our symbols, to strike out all  $x$ 's and  $y$ 's. This particular strand that would normally help to bind me to the fulfilment of my promise is in the supposed case cut: and if this were the only strand in the *prima facie* duty to keep faith with A, we should then be faced with a straight, simple choice in an open field between doing 1000 units of good to A and  $1000 + z$  units to B, without any *prae-judicium* or *prima facie* duty of any kind to benefit A rather than B. In that case, it would (I think) be plain to anyone that my duty was to do the  $1000 + z$  units of good (to B) rather than the smaller amount of good (to A): and, if the hypothesis in question were admissible, the Provost would agree; for he admits that 'if we are ever under no special obligation such as that of fidelity to a promisee, we ought to do what will produce most good'.<sup>1</sup>

But obviously the hypothesis is *not* admissible. We cannot here argue so; for there still remains to be considered the other strand in the 'force of the promise', *viz.*, the *personal bond between me and A* which the promise has set up: and we are agreed that this, though not unbreakable, deserves serious consideration.<sup>2</sup> How strong, exactly, is *this* element in the 'force of the promise'? Evidently it is not a constant, but a variable; and one factor on which its strength depends, and with which it varies, is the strength of A's desire for fulfilment of the promise, or (what comes to the same) the amount of pleasure which fulfilment, or of pain which disappointment, is likely to cause him; another factor being the value assignable to the motive which prompts his desire. Clearly if A no longer at all desires me to fulfil my promise, my duty to fulfil it is not merely weakened but gone entirely, so far as any tie between him and me is concerned.<sup>3</sup> If, again, A's desire is weak—if he does not

<sup>1</sup> P. 39 middle.

<sup>2</sup> The Provost admits that a 'much greater disparity of value in the total consequences on either side' would suffice to break it: I freely admit that it is normally the strongest strand, and well able to hold against the pull of  $z$ , whenever  $z$  is only a moderate amount of good.

<sup>3</sup> Of course, other ties, between me and other people, may have grown out of my promise: they may have made their arrangements on the strength of their knowledge of my promise to A and their expectation of its fulfilment, and it may be my duty not to let them down. But this duty to them, if it has thus arisen, constitutes a quite separate strand (so to

much care whether I keep my promise or not—my duty to keep it is weakened in proportion. This will, I think, hardly be disputed.

Now it is just here that the analysis or symbolic apparatus which the Provost gives us as an aid to judgement is deficient. For here, in A's desire for fulfilment, or (in other words) in the pleasure or disappointment that he is likely to feel at the fulfilment or non-fulfilment of a promise, we have a definite and distinct factor, capable of, and requiring, distinct valuation from any other factor in the case. In particular, it seems necessary to distinguish the value or importance of this private affection or disposition of A towards the fulfilment of the promise from the intrinsic worth or value of what has been promised, considered in itself and apart from A's particular enthusiasm or lack of enthusiasm for the realization of it in this case. If the latter be termed the 'objective' value or worth of the service promised to A, then the former may conveniently be termed, for distinction, the 'subjective' value of the fulfilment of the promise, since it depends on the private disposition of A towards its fulfilment. To estimate the 'objective' value, we should have to ask what is the intrinsic value to a man having A's particular temperament (say) of a City-dinner, of a visit to a good play or a concert, of an illuminating book or whatever it may be which we have promised to A: is it, when made to such a man, a gift of relatively high or relatively low value? To estimate the 'subjective' value, on the other hand, we should only need to ask, Does A care very much, or comparatively little, about the fulfilment of this particular promise to give it him, and why?

Their separateness is at once evident: for obviously A may care very much more for something which *per se* is of relatively low worth. It may be the ambition of his life to go to a City-dinner, while he might be lukewarm to the play or concert, and barely even that towards the prospect of wading through a scientific book; and if so, he will also clearly be more pleased if I keep, and more distressed if I break, my present promise to take him to the dinner than if I so treat a promise of a concert- or theatre-ticket or of a book. It is, of course, evident that the subjective value to A of the fulfilment of the promise—his desire

speak) in the total 'force of the promise' from the strand linking me directly to A, which is the one we are now considering. Any such other direct personal links thus set up would need to be considered and dealt with on the same lines as the original link between me and A. They complicate the particular problem, but raise no fresh question, and I therefore here neglect them for simplicity.

that it should be fulfilled and his chagrin if it is not—is likely to be great where his interest in the kind of thing promised (food, music, theatricals, science, etc.) is great. But it must not be assumed that it will be correspondingly weak where the latter is weak. Other motives (*e.g.*, pride) may make a man quite as strongly insistent that a promise to him of a certain kind of entertainment shall not be broken, even though the kind of entertainment promised is not the one that on its own merits particularly interests him. In that case the strength of the desire still tends to keep high the 'subjective' value to the promisee of the fulfilment of the promise, though its 'objective' value, as we are here using the term (*i.e.*, the intrinsic value of that kind of entertainment to a man of those tastes) is lessened. For clearness, then, we ought anyhow to treat them as separate counts in the reckoning; and this is the more important because the objective value of the services promised to A admits and invites direct comparison with the objective value of the service which, otherwise, I can do to B; whereas the subjective value arising out of the promise exists on A's side only: it is only he who has received my promise, and therefore can be expecting, or hoping for its fulfilment, or can be disappointed if I break it.<sup>1</sup>

<sup>1</sup> There are, no doubt, elements of value on B's side as well, arising out of his particular temperament and circumstances, which in another context, or for purposes of a different discussion, might properly be called 'subjective', and might invite and require comparison with similar elements on the side of A. Thus it would obviously be a greater service to B than it would be to A to take him to a particular concert or theatre, if he happened to be a much keener musician—or theatre-goer; or if A had plenty of chances to go, whereas this was B's one and only chance. The 'objective' worth of the concert or play would then in contrast mean not its value to a man of A's temperament or in A's circumstances apart from its having been promised him, but merely its value from a detached aesthetic point of view, apart from any personal equation of A or B: and if this were labelled 's', then its value to A would be  $s \times t^1$ , where  $t^1$  represents the subjective factor, in the sense of the less keen aesthetic sensibility (the 'personal equation', as it is sometimes called) of A; while its value to B would have to appear as  $s \times t^2$ , where  $t^2$  is a larger figure than  $t^1$ , representing the larger personal equation (keener aesthetic sensibility) of B. But for simplicity I want to concentrate attention here on that particular 'subjective value' which my service may have for A (and can have for A only) *regarded as the fulfilment of a promise* which has raised his hopes: accordingly, I am here treating the particular kind of subjective item represented by  $t^1$  or  $t^2$  (the 'temperamental' figure, as we may call it) as included here in the 'objective' value of the service in question to A or to B. In other words, the expression 'objective value of the service to A', as here used, means the value of that kind of service to a man of A's temperament, in A's shoes, etc., only apart from it having been promised him: likewise too, *mutatis mutandis*, does the 'objective value' of the rival service to

If, however, this subjective value (to A) of the fulfilment of the promise is to be taken into account, as it must be if what is normally the very important personal obligation under which the promise lays me to A is to be considered, then clearly new figures must appear in the reckoning, in addition to those to which we reduced the comparison when we were considering only the other bonds (to society and to other people) set up by the promise, and leaving this one out. Let us describe the subjective value to A of the fulfilment of the promise—*i.e.*, the value of the gratification he feels at its fulfilment—as  $= v$  units of good; and let us describe the subjective value to him of its non-fulfilment (*i.e.*, the value of his chagrin at being disappointed) as  $- w$  units of good. Then, obviously, fulfilment of the promise no longer entails merely 1000 units of good (to A), as we previously reckoned, but  $1000 + v$ ; while, on the other side, breach of the promise no longer entails  $1000 + z$  units of good (the personal gain to B), but only  $1000 + z - w$ . To put it otherwise, let us now take into account A's personal claim on me to fulfil my promise, as thus represented in the subjective value to him of its fulfilment. If now a case for breaking the promise is still to be made out, then the value of the benefit to B that will result from its non-fulfilment must be shown to be not merely  $1000 +$  the small margin ' $z$ ', but  $1000 + z + v + w$ : and these two last figures will only be small (*i.e.*, the necessary balance of good that will justify me in favouring B at the expense of my promise to A will only continue to be moderately small) if A cares only a little whether the promise be kept or not. Otherwise, if, on whatever ground, A is tenacious of my fulfilment of my promise—whether it be from interest in the kind of thing I have promised him, or whether merely from pride or obstinacy he is unwilling to be 'done out of a promise' of any kind—then  $v$  and  $w$  both rise in proportion: *i.e.*, the greater and greater becomes the balance of the 'objective value' in the service I must do to B, over that of the service I have promised to render to A, before I shall be justified in breaking my promise to A in order to do it: and it rises all the quicker in proportion to the value that can properly be assigned to A's motive for his tenacity. In any case, whatever his motive, I must (to put it otherwise) satisfy myself that the objective value of the service I propose to render to B (*i.e.*, its value on its merits to B, B being what he is) compensates

B: while the 'subjective value of the service to A' denotes only that extra value or importance which it has acquired for him owing to the fact that it was promised, that he has been hoping for it and expecting it, has made his plans to prepare for it, etc.

not only (1) for the 1000 units of the 'objective' value of the promised service to A (*i.e.*, for its value on its merits to such a man as A is, *apart from* its having been promised to him), but also (2) for the whole of its 'subjective' value for A (for the whole extra value which its fulfilment has acquired for A *in consequence of* its having been promised) and also (3) for the whole of its social value (the value which its fulfilment may have for society as tending to promote, whereas a breach of it would weaken, public credit), and that (4) in addition it still possesses a definitely recognizable balance of value,  $z$ , into the bargain. Stated fully in symbols, whereas the objective benefit to A of fulfilment of the promise (*i.e.*, its value, leaving out of account the interest which he or society may have in it barely as the fulfilment of a promise) will = 1000 units only, the objective benefit to B, if breach of the promise for his sake is to be justified, will have to amount to the very much larger figure of  $1000 + v + w + x + y + z$  units. Herein, even if  $z$  may be only a small margin, and even if we grant to the Provost that  $x$  and  $y$  may also be small, on the ground that the public interest in the fulfilment of one particular promise is apt to be 'greatly exaggerated', still  $v$  and  $w$  are only small where A does not much care whether the promise is kept or not: otherwise, if he is inclined to fight for it, and his motive in fighting is deemed worthy of high respect, his tenacity will be represented by considerably high figures: both  $v$  and  $w$  will go up by leaps and bounds. Or (to drop symbols) the promise to A may not be broken until the whole 'force of the promise', in the sense of the whole reasonable interest it may have, either for society at large (as an element in the public system of credit) or for A personally as the promisee, and likewise (we may add) also for myself and my own credit as the maker of the promise, is taken into account and seen to be definitely outweighed—*more* than compensated—even though it be only by a narrow margin, by the alternative advantage to be conferred on B. Then, and then only, may the promise be broken. It is plain that, supposing B to be an individual, the interest at stake for him must usually be one of first-rate importance—if not a matter of life and death, at least some serious crisis, involving his health or sanity, or some serious loss or gain in his fortunes—before it is likely that we shall be justified in leaving A much against A's will in the lurch, for the sake of B: or, supposing B to be a group of people (*e.g.*, the church, a musical or theatrical society, the army or navy, a political organization, etc.), it must be some group, our serving of whom in the way proposed may reasonably be called a matter of urgency and of public importance.

A theory whose principle, when fairly represented, works out in this way, cannot fairly be charged with taking 'our duty as makers of promises too lightly'.

I think that a trial of the working of the principle on these lines, by considering its application to hypothetical cases, will clearly show that (1) its results tally with those that may reasonably, and would probably, be given in such cases by the unsophisticated moral judgement of any educated, reasonable man ; and that (2) it gives of the process whereby such results are reached an account that is at least clear and intelligible in principle, whereas the alternative account which we are asked to substitute for it is, in comparison, mysterious and obscure, leaves open a relatively wide margin for caprice and arbitrariness, and (unless other people possess a kind of insight to which I am a complete stranger) is in the end bankrupt, if left to itself, of any result at all.

(1) Suppose (*e.g.*) that I have promised to take to a concert or a theatre A, who is only moderately interested in music or in plays. B calls unexpectedly, being an enthusiastic musician or theatre-goer, and I wish to goodness that I could give my spare ticket to him instead of to A : but may I ? The objective value of the service to B is clearly greater than that of the promised service to A, owing to the temperamental difference between the two men ; if, besides, A has plenty of other chances to hear the music or play, while B has none, it is still greater in proportion.

But this difference will probably be outweighed if A still wants to hold me to my promise, partly by the subjective value to him of its fulfilment (this factor will count all the higher in proportion to A's keenness, to the worthiness of his motive for that keenness, to the extent to which he has put himself out, refused other invitations, etc., in consequence of my promise, etc.) ; partly by the social importance of keeping faith ; partly by the value of A's friendship and good-will to me (I shall deal perhaps a mortal blow at this, if I disappoint him) ; partly, by the value of my own credit, the loss of which will (as we have seen)<sup>1</sup> cripple my power for good so long as it lasts. I cannot, to balance all these things, plead that it is a matter of any vital importance that B should attend this particular concert or play, despite the fact that in itself, since B is more artistic and this is his only chance, it will 'mean much more' to him than it will to A ; and my own greater pleasure at attending the performance with a more enthusiastic companion, I should rightly count for little. If,

<sup>1</sup> See MIND, N.S., 162 (April, 1932), p. 153.

then, this is all, the balance of good is clearly on the side of keeping the promise. There is nothing in the enhanced pleasure and aesthetic value that B and I should get out of the performance compared with me and A, to counterbalance these manifold and easily-predictable mischiefs and losses of good that will follow a breach of faith to A. Here, then, we have, on ideal utilitarian grounds, ample justification for what I think would be the general verdict, that in these circumstances I must keep faith with A.

Now, on the other hand, suppose that the alternative service which I can render to B is one which may fairly be called of vital importance to him—suppose he needs imperatively to discuss with me something affecting his whole career, and only has those particular hours, or suppose that he is my brother-in-law and summons me to the bedside of my sister who is believed to be dying—I think few would question that I should then be justified in breaking faith with A. For the difference of the verdict in this case and in the last ample ground can be shown on the utilitarian methods. On B's side the value figure would have soared considerably above what it was, and all the higher in proportion to the objective good that I might be able to do. If I could only offer sympathy and unskilled assistance, the case for throwing A over would clearly be less strong than if I were a doctor, able to do things for my sister's comfort and perhaps for her recovery. But in either case it would probably be sufficient. The situation, would, I think, clearly be one of those noted by Cicero<sup>1</sup> where the promisee commits a 'graver dereliction of his duty' by insisting on fulfilment, than the promiser in refusing it.<sup>2</sup> Just for this reason, too, that the balance of good would be so largely and obviously in B's favour, those items on A's side which depended on the probable ill-effects that my breach of promise would have on the judgement and attitude of others, would *ipso facto* tend to lose force. The public would be less tempted by my example to break their promises unjustifiably, and for purely selfish reasons, if obviously my motive was thus to do a greater service to another. My own reputation for trustworthiness would be less liable to suffer in the eyes of reasonable people: any aspersions which A might in pique try to cast at me would soon recoil upon himself. His insistence, if prompted by mere chagrin, would *ipso facto* have less title to respect: the

<sup>1</sup> *De Officiis*, I. 32: his example is similar, though he states the principle rather differently.

<sup>2</sup> Cf. *ibid.*, III. 92, where the promise is likewise void, and the promisee is "inhumanus, qui non concedat".

blow to his friendship or goodwill would, no doubt, be equally strong ; but, on the other hand, his friendship, if he be a man of that jealous temper, would have likewise a considerably diminished value. Here too, then, the Utilitarian calculation points clearly in the same direction as the normal unphilosophical but sensible moral judgement. The largely increased weight of good in the one scale, and the largely diminished weight in the other, are amply enough to account for the swing of the pointer : and the language of even the unphilosophical moral judgement shows clearly (I think) that this coincidence is not accidental but essential. The untrained moral judgement no less than the Utilitarian is thinking, though perhaps only half-consciously, in terms of the ultimate good, or of what on the whole is best.—‘ Make your appointment with B ’, or ‘ Go to your sister : it will be much *the best thing to do* ’.

Of the Provost’s other examples, whereby he tries to show that our moral judgement approves the fulfilment of a promise or of some other *prima facie* duty rather than some act which will do more good, the solution is similar. In one of them he asks, If I have promised A a particular service valued at 1000 units of good, may I do him instead a different service valued at 1001 units ? In the other he asks, May I do 1001 units of good to a very bad man, B, rather than 1000 units of good to a very good man, A ? In each case he answers No, and supposes himself thereby to have refuted the view that to do the most good is always right. In each case we have a tussle between a *prima facie* duty and what is represented as a greater good, and in each case the *prima facie* duty (in one case a duty of ‘ fidelity ’ and in the other a duty of ‘ justice ’) wins the day. But the answer is that the refutation is only plausible so long as the higher good is reckoned not (as the Utilitarian would reckon it) concretely, having regard to all the relevant factors in the case, but abstractly, leaving out factors that have a very material bearing on the goodness of the result.

Reckon it concretely, as it ought to be reckoned, and in each case the higher good will be found to coincide with what is right.

(i) Do the figures, 1000 and 1001 units of good, represent the values of the rival services reckoned ‘ objectively ’, and apart from such personal or ‘ subjective ’ factors affecting them as the fact that A has been promised, and is expecting, the one form of service and not the other, or that of the two possible beneficiaries A is a saint and B a rogue ? Does their difference represent such differences as (say) that between a dinner without coffee and cigars, and a dinner with them ; or between the gift

of a book in an earlier edition, and of the same book in a later and revised edition ; or between a ticket for a well-acted melodrama, and a ticket for an indifferently acted play of Shakespeare ; or between admission to a well-played work of some second-rate modern composer, and an indifferently played work by Beethoven ;<sup>1</sup> or between a ticket for the stalls and one for the pit for the same play ? In that case, the Provost is right in his conclusions but wrong in his reasons for them. The force of the *prima facie* duty (to fulfil promises or to recompense the good) of which he thinks the utilitarian oblivious, is really in each case a decisive weight of *good* (arising out of the above-named personal or 'subjective' factors) of which, on the above interpretation of the meaning of his figures, he is himself oblivious. It is undoubtedly right (*e.g.*), on that interpretation, to confer on A the benefit,  $\alpha$ , which he has been promised and expects, supposing him still to desire it ; not, however, because there is any mysterious force in the promise, outweighing the fact that the possible alternative benefit,  $\beta$ , is better, but rather just because, when A is prepared and hoping for  $\alpha$ ,  $\beta$  will not be half so beneficial to him. Considered abstractly and *per se*, it may be better than  $\alpha$  by very much more than 1/1000 ; but, approaching it as he does, A is likely neither to profit by it nor to appreciate it. Obviously a Jacob who has served his seven years for Rachel is unjustly treated if at the end he is rewarded only with the 'elderly, ugly daughter', even though the latter may very probably be the more dutiful and better wife. The reason, however, is not that the promise of Rachel ought, as such, to prevail over Jacob's greater good (in the shape of Leah's superior conjugal merits), but simply that, as long as Jacob's affections remain with Rachel, it is on the whole probably *better* for him that he should marry her, and have to stand the racket of her ways, than that he should be put off with a partner whom he does not want. Again, in what mood will the urchin be, who has been promised a cushioned stall at a cinema, for listening instead to a symphony of Beethoven, especially if (to reduce the margin of difference to the microscopic amount contemplated by the Provost) we suppose the superior value of the music to be discounted by all the usual discomforts of a concert-room ?<sup>2</sup>

<sup>1</sup> I refer to the acting or playing in each case in order to reduce to 1/1000 the otherwise vast discrepancy of value between the works themselves.

<sup>2</sup> Cf. pp. 316 n., 319 above, for the view that a more receptive, appreciative mood in other people may sometimes in the concrete situation render better, and therefore be a sufficient ground for preferring, what abstractly and *per se* is much inferior.

This, in the circumstances imagined, is a sufficient ground for deciding to fulfil the promise ; and that it is the essential and only reasonable ground of the preference is clear from this, that if by any chance A was *not* strongly looking forward to  $\alpha$ , and desired  $\beta$  (when suggested to him) in preference to it, the 'force of the promise' would be found to have disappeared. Suppose (e.g.) that Jacob's affections came to be transferred to Leah, who then would any longer treat the promise of Rachel as having any force at all ?<sup>1</sup> Again, if the urchin should happen to jump at the idea of hearing Beethoven's symphony, the grim and scowling figure of the promise that is supposed in the Provost's theory to stand unmoved between him and the greater good, is no longer there. Promise be hanged (I think anyone would say) : let us go instead and hear Beethoven. Why, then, this change ? There is none in the fact or nature of the promise : that is all as it was. The only change in the conditions is that the urchin has become receptive to the abstractly better thing, and that therefore to give it him rather than the abstractly worse is now (as before it was not) the better thing in the concrete circumstances as well ; that is what now will benefit him most. Could plainer proof be asked that the obligation to fulfil the promise does not spring automatically out of the fact that the promise has been made, and override the greater good ? If it did this ever, so it would have to continue to do to the end of the chapter. Rather, the obligation to fulfil the promise, when it comes to the point, is found to depend upon the condition that the fulfilment is then, in the circumstances, the *best* course ; it lasts just so long as this condition is realised and no longer. To do the abstractly lower good,  $\alpha$ , remained right just so long as subjective factors (lack of taste or of readiness to appreciate it) rendered the abstractly higher good,  $\beta$ , the less likely to be fruitful of good in the circumstances. The change in those factors, which caused  $\beta$  to become the higher good in this particular concrete situation as well as *per se, ipso facto* dissolved the force of the promise to realise  $\alpha$ , and made it obligatory to realise  $\beta$  instead.

(ii) Now suppose, on the other hand, that the figures 1000 and 1001 represent the values of the two services reckoned concretely, *i.e.*, after due allowance has been made for all relevant factors. Evidently, if the 1000-unit service,  $\alpha$ , is what A has been promised and is hoping for, a considerable number of the

<sup>1</sup> Unless it were, perhaps, out of consideration for the feelings of Rachel herself, or of possible rivals for Leah's hand. But I wish here to fix attention on Laban's duty to Jacob only, arising out of his promise, and therefore leave extraneous considerations like these out of account.

1000 units (to use our former symbols,  $v$  units) will have to be set down as 'subjective' value, representing A's pleasure resulting from his gratified hopes ; a certain other number of units (in our old symbols,  $x$  units) will represent the value of the support which it will lend to public credit, while a certain further number (say,  $p$  units) will represent the value of the support which it will lend to A's friendship for me, seeing that it is a service for which he is looking and will be grateful. Thus the 'objective' value of  $\alpha$  to A—i.e., its value as a mere service, abstractly considered, and shorn of the extraneous additional values it has thus acquired in consequence of having been promised, will not be 1000 units, but only  $1000 - (p + x + v)$  units ; and  $v$  is a factor liable to expand to a very considerable figure in proportion to A's anxiety for the promised service, and particularly when (as is very often the case) the whole point of making the promise at all was to gratify A or give him pleasure. So on the other side, before we can arrive at the figure 1001 units as representing the total value of  $\beta$  in the actual circumstances, we must obviously deduct from the 'objective' value of  $\beta$  as a service  $w$  units, representing A's disappointment at the loss of  $\alpha$ , and a further  $y$  units representing damage to general credit, and in addition  $q$  units representing the damage done to my friendship with A, when, instead of giving him what he hoped and expected, I give him something for which he is not looking and will not be particularly grateful. The 'objective' value of  $\beta$ , considered abstractly as a service (apart from its involving any breach of promise) will thus not be 1001 units only but  $1001 + w + y + q$  : and if  $y$  and  $q$  may perhaps be small items,  $w$  (like  $v$ ) is liable to expand indefinitely in proportion to A's zeal for what he has been promised, and the extent to which the promise was made for A's pleasure. For the purpose of giving rough numerical equivalents for our symbols and so exhibiting their significance rather more precisely, we may perhaps assume without any great improbability that roughly  $v = w$ , and  $x = y$  and  $p = q$  (i.e., that the intensity of A's pleasure at  $\alpha$  will approximately equal the intensity of his pain if disappointed ; and further that the gains or losses at stake to the public credit, or to my friendship with A, will also be about equal). If so, it follows that for the purpose of comparing the 'objective' values of  $\alpha$  and  $\beta$ ,  $\beta$ 's 1001 units must be raised by approximately the same amount whereby  $\alpha$ 's 1000 units must be lowered : thus if 1000 and 1001 are to represent their values in the total concrete circumstances, taking the existence of the promise and of A's consequent expectations into account, then their 'objective' values will be more nearly

represented by 900 and 1101 respectively, or by 700 and 1301, or by 500 and 1501, and so on, the actual extent of the gap between them depending mainly upon the intensity of A's enthusiasm for  $\alpha$ . In any case, if we interpret the Provost's figures to represent the tiny advantage in value which  $\beta$  has over  $\alpha$  in the concrete circumstances, in view of  $\alpha$  having been promised and of A's raised hopes, we must remember that the superior value of  $\beta$  over  $\alpha$ , regarded in itself as a kind of service and apart from any consideration of the promise and its consequences, is something considerably greater in any event, and may be very great indeed: and it will further follow that in using any such calculation as an aid to judging whether it is legitimate to divert our service from  $\alpha$  to  $\beta$  we shall attend principally to the intensity of A's desire for the promised  $\alpha$ . If he is not particularly anxious for  $\alpha$  as against other alternatives, then even a relatively small superiority in value on the side of  $\beta$ , abstractly considered, may be good ground for giving him  $\beta$  instead. If, on the other hand, he is eager for  $\alpha$ , then the superiority in the 'objective' value of  $\beta$  must be proportionately greater; until, if he is intensely keen upon  $\alpha$ , the importance of giving him  $\beta$  rather than  $\alpha$  must (considered in the light of their intrinsic character as services, and apart from the existence of the promise) be very great indeed— $\beta$  must (in other words) be something that it is really of vital importance that he should have—before I am justified in disappointing him of  $\alpha$ . In any case, however, if the total balance of advantage is clearly, even by a small margin, in favour of the substitution of  $\beta$ , then it is right to substitute it.

Now on reflection this is, I think, exactly how we think it right to act in such cases. Two typical instances may suffice: and first let us take one where the 'subjective' figures are low. X (say) has offered to take Y to a particular comedy, or for a drive to a particular beauty-spot; and Y looks forward quite keenly to the treat, but without any special predilection for that particular form of it. It need cause X no compunction whatever to say to him, when the time comes, 'I promised you comedy A; but I have taken tickets instead for comedy B, which I hear is rather funnier': or (in the other case) 'I am going to drive you to beauty-spot B instead of to A as I promised, because the view from B is finer'. I imagine we have all treated others and been treated ourselves in this kind of way, dozens of times, without a qualm of conscience or the slightest sense of ill-usage. If, on the other hand, Y were known to have any strong desire to see A in preference to any other alternative, both the utilitarian calculus and the natural working of the moral judgement of any

sensible good-natured man would lead X to hesitate long, and probably in the end refuse, to disappoint him, unless there were something of very urgent importance to be gained thereby.

Let us now take an instance, where the 'subjective' value of *a* is at a high figure. X has promised to take his small son (an enthusiastic musician) to a symphony-concert: but the boy, shortly before the concert, breaks two teeth on a Brazil-nut. He is not in pain, but will be before long, if not attended to; and the only possible chance of an appointment with the dentist during the next month is at the time of the concert. Which is it to be—concert or dentist? Here, despite the fact that physical comfort is *per se* a thing of little importance compared with aesthetic value, I assume most people will agree that, having regard to the general paralysis of life which severe pain involves, the fortnight or three weeks of toothache which is in store if the promise be kept is a much greater evil than the loss of the concert; and that therefore the 'objective' value of the service X will render his boy by getting his teeth mended will, in the conditions supposed, be very considerably greater, abstractly considered (*i.e.*, apart from the promise of the concert and the hopes raised thereby), than the objective value of taking him to the concert. At the same time, the wide difference in 'objective' value between the two services will be very considerably offset (and may, if you like, be reduced to 1/1000) by the high subjective figure in the other scale—the unabated desire of the boy for the concert: for what really and enthusiastically musical boy, not yet in pain, would not cheerfully face the threat of Hell a fortnight hence, for the sake of a symphony-concert this afternoon? Will not the verdict here, not only of a sternly righteous parent, but even of an indulgent one, be 'I am extremely sorry for the child; but I must take him, despite my promise, to the dentist'?

If then he is pressed to give a reason for his remarks, it will be evident that the expressions of pity and regret are called forth by a sense of what is due to the 'subjective' factors in the case (the boy's hopes and their disappointment), while the practical verdict is dictated by the judgement that, with the moral certainty of the toothache in prospect, the balance of good for the boy is still definitely (by however narrow a margin) against the concert, even when these hopes, etc., have been taken into account and given all their due weight. The parent, unless he is a Utilitarian addict, will not put it into this language—and even then (if he is wise) he will be chary of attempting to attach more than a rough value to any figures he may use. He will probably say

only that 'All things considered, the boy's *interest* demands' (or 'it will be *best* for him') 'that I should take him to the dentist'. But such language thinly conceals the 'ideal Utilitarian' way of thought.

If, on the other hand, the toothache to come is not a 'moral certainty'—supposing (e.g.) that one of the broken teeth is already dead and the other only slightly chipped, so that the risk of trouble during the next month is rather small—then clearly the 'subjective' factors will pull the lessened value of the visit to the dentist well below the necessary 1001 units, and the boy will get his promised concert. Again, 'ideal Utilitarian' language is unlikely to be used; but the method of judgment of which the language is the technical expression will be apparent in what the parent will probably say if asked to explain himself: 'I do not think that on the whole it will do the boy any *harm* still to come to the concert', or 'he can *quite well* come': 'we can *safely* risk the toothache'.

How now of the other example (the last we shall consider), where the choice lies not between doing a service to one or other of two different people, but between doing 1000 units of good to a saint, A, and doing 1001 units to a scoundrel, B? Here the 'subjective' factors are different in kind, but there is (I think) no difference in principle. The same alternative interpretations of the figures are open to us:—

(i) Do the figures 1000/1001 represent the 'objective' values of the two services, considered simply as services to another human being, and apart from any consideration of the moral quality of the recipient? Then the Provost's conclusion will probably follow, but not for the reason which he gives. The saint will win, but not because his holy record in the past carries with it merits which, without any regard to any results in the future, automatically outweigh our obligation to spend our money in the best possible way; but because, when we take into account the difference of character between the two men, it will probably be evident that to spend on the saint *is* to spend in the best possible way. The influence of the subjective factors is probably more than enough to outweigh the difference between the objective values of the two services, and to tip the balance that way. An obvious and amply sufficient reason might be that in all probability much better use will be made of our gift by the saint than by the blackguard: £1 (very likely even 1s.) spent on the former will do more good than a guinea spent on the latter. Or our ground might be that contentment together with godliness is greater gain than even a slightly greater

contentment coupled with wickedness. At any rate it would not be because the excellent qualities of the saint entitled, still less because they obliged, us to spend our money in a worse rather than in a better way : it would be a queer kind of ' saint ' who would even wish that ! The only and sufficient justification for humouring the saint would be if, when not only the objective values of the gifts as gifts, but the characters of the two men and all relevant circumstances, are taken into account, the balance of good is seen to fall that way.

We have only to think of an instance where the reverse is likely to be true to see the collapse of the Provost's case that the saint as such should win. I have rather a valuable old flute. A, a faithful old servant,<sup>1</sup> completely innocent of music, and B, a neighbouring cottager, an accomplished flute-player but given to drink, are both equally eager to possess it, A for sentimental reasons (because it once belonged to his grandfather), B for musical reasons. To whom should I give it ? Now if I suspect B's reasons, and think it probable that he only wants to sell my flute and drink away the price, this will illustrate only the same situation as before. A should then have it, not because the merits of his loyalty in the past entitle or oblige me to devote my flute henceforward to the worse of the two possible uses, but because to give it to A will probably ensure its better (less harmful) use. *Ex hypothesi*, A's pleasure in getting will = B's, and meanwhile B will not be provided with renewed means of drunkenness. If, on the other hand, I am satisfied that B means to *play* my flute, instead of the vile object on which he now performs, my duty would obviously be to give it to him. I will not put the advantage to his (or to the general) good too high, by supposing (what might very likely be the case) that it will give B a new start in life by enabling him to join a neighbouring municipal orchestra, and perhaps lead to his moral reform as well : for if I argued thus, the Provost would then justify the gift to B on his principles as well. He need only say that the doing of so much good to B would alter the proportions from 1000/1001 to something more like 1000/5000, bring out his reserve weapon, ' the *prima facie* duty to do as much good as possible ', and say that in this case he is of opinion that this latter *prima facie* duty was more ' urgent ' than that of rewarding A's merit by

<sup>1</sup> In supposing this relation between me and A, I am adding (according to the Provost's theory) a *prima facie* duty of ' gratitude ' to that of ' justice ' ; if, then, my solution of the case is admitted, I shall have killed two of his birds with one stone : *a fortiori*, the claim of the greatest good will prevail over that of either *prima facie* duty taken alone.

the keen, if rather dog-in-the-mangerish, gratification of owning the flute. In that case there would be a stale-mate. To make the illustration tell, therefore, I will suppose that the net gain will be musical only—that B's talents will be given a better chance to mature, and that the ears of his village-audiences will henceforward be regaled with melody instead of being tortured with squeaks. I would even reduce the balance further by supposing that whereas the long-coveted flute is now the one thing needed to make A thoroughly happy, B does not yet even know of its existence. Suppose this, then, to leave 1000 units of gratified ambition or covetousness on the one side against 1001 units of musical gain on the other. Even so, I think it will be generally agreed that my flute will be better employed in B's hands than by mouldering in A's damp cupboard, and that this is reason enough why I should do right in giving it him.

Or let us take a case where the kinds of benefit to be conferred are not quite so disparate as in the above example. A, who is good, and B, who is bad, are tenants on my estate, and each has applied for a certain newly-built cottage. The cottage will clearly suit B's needs rather better than A's. Any sensible landlord would, I think, *ceteris paribus* consider it right in these circumstances to give the cottage to B: and so he would also, even if (to reduce the difference still further) the greater benefit to B turned only on the fact that A, being good, is fairly contented where he is, whereas B, being bad, is continually restive and discontented.<sup>1</sup>

(ii) Now let us suppose, on the other hand, that the figures 1000/1001 represent the total values of the two gifts reckoned concretely, with the moral differences of A and B, and the better use to which A is likely to put my gift, compared with B, already taken into account. It is not very easy to find examples of this situation, where the choice lies between an assured good arising from a benefit done to a very good man and a very slightly greater and equally assured good arising out of a benefit done to a very bad one. The attempt to benefit very wicked people, unless we can do so morally, is apt to be a precarious business. To show them favours is often a doubtful kindness: it may easily render them the more pleased with themselves, and so only harden

<sup>1</sup> I say "*ceteris paribus*", for there might easily be sufficient reasons of another kind, arising out of B's bad character, for refusing him. If (e.g.) he were drunken and apt to be noisy and disorderly, I should hesitate to place him near my house or the houses of any decent people (especially if they had children), or near the highway. In that case A would win, for the reasons given in our earlier illustrations.

them in their wickedness.<sup>1</sup> Again, in the hands of bad men any material advantages are apt to be used for evil ends, and so to turn to evil rather than to good : and in any case, as our last examples illustrated, it is plain that craft-implements, houses and other material instruments should, *ceteris paribus*, go to the better craftsman or to the needier, not to the holier man as such, even if the latter happens to covet them. On the other hand, it is difficult to think exactly what benefit it would be possible to do to a very good man that would be as valuable, by all but a hair's breadth, as the moral reclamation of an abandoned sinner, and moreover would be an alternative to it. But I am certain that anyone who had the personality, or could command the 'winged word', required to achieve the latter, and had the choice of either visiting the sinner or visiting some holy old crony, would feel it his duty (whatever his predilections might be) to minister to the 'lost sheep' rather than to the other, however great the thrill or the material or spiritual consolations he might be able to impart to the other by visiting him. He would ask himself, if he wanted to know what his duty was, 'What is the *best* use that I can make of my afternoon ?' and abide by the result, even if the balance on the one side or the other were quite small. And this illustration is perhaps accurate enough for our purpose.

We have now tried to show by a variety of instances that when the 'ideal Utilitarian' method is properly applied to problems of duty, its results tally fairly exactly with those which would probably be reached by most sensible and good-hearted but unphilosophical people, and considerably more closely in many cases than the results of the method which the Provost wishes us to accept in its place as the true method of moral judgement. So much then, for the test by results.

(2) Our second claim (p. 319 above) for the ideal Utilitarian method, as outlined and illustrated above, was that it is clear and intelligible in principle and that the margin of arbitrariness involved is relatively narrow. In inserting the qualifications 'in principle' and 'relatively' I mean to disclaim the idea that the particular results reached are precisely demonstrable, or that there must necessarily be agreement about them (even between

<sup>1</sup> Witness the effect on sexual morality since the Victorian ostracism of persons culpably divorced has given place to the open-armed reception of them as 'interesting' social figures : people that way inclined now think as lightly of adultery, divorce and remarriage as they would of buying a new donkey.

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educated people) in detail. Different judges may always be expected to differ to some extent in their valuation of the importance for choice of this factor in the problem or of that. Each has his own natural bias to contend with: artists tend to exaggerate the value of anything that may strike them as beautiful; philosophers that of abstract and sometimes unprofitable straw-splitting; Puritans that of a cheerless self-righteousness: and many people appear to find it as difficult to discount such natural tastes as to jump out of their skins. In particular, to assign precise numerical values to the several factors is impracticable. A high figure denotes only an obviously high value—that here is a factor of very great importance: a middle figure that the factor is rather important, but not very, or strikingly, so: a low figure that the factor is of comparatively little consequence. But there is little meaning in disputing whether (supposing the maximum for any factor to be 100) this or that important factor should be set down as 75 or as 80, this or that fairly but not very important factor as 45 or as 50, and this or that comparatively unimportant factor as 10 or 15. Again, a small balance on either side should denote a clearly recognisable but slight balance of total advantage on that side; but it is much the same whether it works out as a balance of 5 or 10 or 15 per cent.<sup>1</sup> For this reason symbols like  $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$  (with additions of + and - if required) seem better fitted than numerical estimates to express the different degrees of significance or importance (expressed verbally by 'extremely'—'very'—'quite'—'moderately'—'not particularly'—'hardly at all' etc.) which, however we do it, we undoubtedly *do* judge such factors to possess in any given case. Moreover there is another distinction between our various factors or assets, which it is most important in any practical choice to bear in mind, *viz.*, the distinction between the morally certain, the uncertain but<sup>2</sup> probable, and the possible but precarious: and for this there is no special symbol, either arithmetical or algebraical, and an increase or decrease of marks is but a rough expression. But when all discount has been made for these inexactnesses, there remain certain clear advantages that we may claim for the method.

(i) It accustoms us to analyse out the different factors involved. Instead, for example, of vague expressions like "duty of fidelity", "force of a promise", "good to A", and the like, each of which is a simple-looking, but may be a question-begging, label for

<sup>1</sup> The balance of 1/1000 which the Provost proposes (p. 34 foot) seems almost to be conceived in *ludibrium*: it may stand perhaps for the smallest recognisable.

a complex tangle of claims, very differently compounded in different cases, it makes us develop a more or less clear and complete *apparatus criticus* for the analysis of these—claims of parties directly interested, claims of third parties who are individuals, claims of the community generally, intrinsic values of such and such activities, the personal interests of A or B in them, the different extents to which different promisees may care for the fulfilment of the promise, or for the particular thing promised, etc. We then at least start with the same sort of advantage for dealing with any particular situation which a doctor or anatomist has over the amateur in dealing with (say) an 'internal pain'.

(ii) By assigning to each of these factors a value we bring them all into comparison upon a common ground : we render the result arguable in general and in detail upon a common principle and under a common form. The question in regard to the whole, and in regard to each item or element in the whole, is "What values do you attach respectively to this or to that? What is more important, more worthy of respect and support, and what is less?" Thereby the whole problem is put in a form that admits of discussion : the verdict, if reasonable, can be endorsed, or if unreasonable can be corrected, by systematic reflection on a number of clear issues : *e.g.*, is the sort of thing I have promised to do (*e.g.*, the taking of A to a banquet) in itself a thing of particular importance compared with the alternative confronting it (*e.g.*, assistance at a concert or public meeting)? Does it much matter whether the given concert or public meeting is a success or a fiasco ( $\alpha$ ) if it be one involving 100 yokels in a village barn, ( $\beta$ ) if it be one involving thousands of people in the Albert Hall or Queen's Hall? Again, how much does A really care about the fulfilment of the promise? Will the inconvenience caused him by a breach of it be serious or trivial? Shall I have the opportunity to make it up to him if I disappoint him to-day? Is his tenacity due to a real care for what is promised or in the main to pique and obstinacy? Is it entitled to equal respect in either case? If, again, I find myself strongly attracted to one alternative or the other, I can likewise examine my own motives and ask whether they are relevant to the issue, and if so, what amount of respect they deserve.

(iii) An analytic method like this soon causes the more important, determinant factors in any individual case to stand out from the relatively trivial and unimportant, and these are naturally different on different occasions. It is not to be expected, nor is it the fact, that the weighty reasons which finally determine us

to keep a promise or to break it are the same in one case as in another. This method enables us to decide on grounds that are not only clearly stateable, but appropriate to each particular case. It has just that element of elasticity and adaptability to the special relevant circumstances and factors in each case which is imperatively necessary to keep our final judgement (or *αἰσθησις*) on the case straight. Without it, in fact, any such *αἰσθησις* is likely to be a merely blind shooting, equally disastrous whether it is always in one direction, mechanically enforcing a constant rule (e.g., that promises must always be kept), or chops and changes its direction (e.g., deciding that this is to be broken and that to be kept) on the strength merely of a general and unanalysed impression.

The Provost's method, on the other hand, is to select by inspection, and on no constant principle whatever, the most "urgent" or "stringent" of a number of *prima facie* duties; and in comparison with this the above features of the method I have tried to defend seem to me to entitle it to be called clear, intelligent, and intelligible. According to it in the last analysis every moral judgement that A is right rather than B rests, or should rest, upon a comprehensive valuation of all the reasonably probable consequences of A and B as far as ever these can be foreseen, coupled with the axiom that the best result is what it is right to aim at, and that, of acts, the right one to do is that which promises to be productive of the best result. And here our discussion seems to go back to two differences upon which, if they are not unarguable, at any rate I do not see how to argue further. To me the axiom (the coincidence of the 'right' with the 'optimific') appears to be self-evident: I cannot conceive myself being convinced that of two courses, A and B, on the longest and broadest possible survey, when everything relevant has been weighed, A is distinctly the better, and yet that I ought to do B. If any one says (as the Provost does) that to him this is not self-evident, and that in fact there seem to be many cases where the right course and the optimific course fall apart, I do not see how to persuade him, unless possibly a further consideration of such cases, perhaps in greater detail, should bring him (as so far it has not brought me) to a change of view. Again, if any one assured me that he found it easier to compare (according to the Provost's method) the degrees of stringency of our *prima facie* obligations to do different kinds of act (to fulfil a promise, to redress a wrong, to do the most good we can, etc.), than to compare the values present in, or to come from, the various factors of a given situation, I suppose I should do my best to believe him: but here

again would be an ultimate and unarguable difference of outlook. My own experience is the opposite. The comparison of different degrees of value, with all its difficulties, is a comparison of terms which *ex hypothesi* are to some extent homogeneous, and so readily comparable. To ask of two degrees of the same value which is the greater is (to use a rough analogy) like asking which of two shades of the same colour is the deeper. It is a matter of relatively simple and mostly agreed intuition.<sup>1</sup> To compare different degrees of different values, though rather more difficult, is hardly more so than to say (e.g.) whether a particular shade of red was of a deeper tint than a particular shade of blue, or to solve the question, which is easily within the capacity of any vendor of colours, whether to charge more for a dilute mixture of an expensive gold paint or for a concentrated mixture of a cheap red one. In each case comparison is relatively easy because the objects to be compared lie within a single field, of values or of colour. It would be harder again to compare (say) the depth of a colour with the pungency of a smell or the acridity of a taste, and say which evoked the keener sensation, though this would be possible perhaps just in so far as these all alike are sensa imparting certain shocks, pleasurable or painful, the degrees of which could be compared directly. But this would be easy beside the attempt to compare such terms as the keeping of a promise, the reward of merit with pleasure, the reparation of an injury, and the doing of all possible good, and to say which of these carries in the given situation the greater amount of stringency. This to me would be immensely harder, just because, if we must exclude from consideration their common characteristic of bearing value, presently or prospectively, they do not meet on any common field.

No doubt (it may be said), even when any values they may possess or be likely to create are blotted out of sight, there still remains the common character of obligatoriness: why then not compare them directly in this respect, simply asking which of these obligatory alternatives is the more obligatory? To this question two answers are possible:

(a) The first and more superficial might allow to pass unchallenged the assumption that on these terms the question is readily

<sup>1</sup> No doubt imagination and intelligence are harder to train than the eye, and among either artists or philosophers there are and always will be desperate battles about the merits of the more important figures or schools; but the universal agreement who these are, and the immense number of agreed intuitions which this selection implies, make the extent of these unsettled differences small in comparison.

answerable, and content itself by asking under what guidance the answer could be reached. What clue have we to the respective degrees of obligatoriness of X and Y? And then I think the answer would plainly be that, when we have abstracted from X and Y the whole of any value or importance that they may possess or be likely to generate, we can have nothing to guide us in judging the degree of their obligatoriness, either singly or comparatively, except our subjective reaction to them, *i.e.*, the degree to which we happen to feel ourselves drawn or obliged to one or the other. But to be guided by this would be plainly to abjure reason and commit ourselves to caprice. The personal bias we happen to feel, of obligation no less than of inclination, toward X or Y is the very thing requiring to be brought to the test and confirmed or corrected. Our very question 'What *is* obligatory?' 'I feel obliged to do X: it *seems* to be obligatory, but *is* it so really?' shows that what reason instinctively demands is some objective character in the action or its results that may act as a check upon our first impressions: to fall back, then, on the strength of these impressions (and if all thought of the respective values of X and Y and of their results is to be excluded, there seems to be nothing else to go by) is to give up this demand and to acquiesce in the impression as it stood at first. To the question then, 'Why, dismissing all thought of value, should we not compare directly the obligatoriness of X and Y?' the cruder answer would be that on the terms imposed by a theory which robs us not only of any consideration of value, but of any other common principle whatever for the judging of our actual duties, the only ground we could possibly find for declaring either more obligatory than the other would be our unchecked personal impression of the extent of their obligatoriness at the moment: and that this, though it accords well enough with the Provost's description of the resulting opinion as 'highly fallible', does not accord well with the description of it as 'probable'. Rather it takes away from it all title to respect. If this be its only basis, the opinion ceases to be of any interest except as an event in the psychological history of its holder.

(b) The truer and completer answer would (I think) be that if the question about X and Y is put subject to the said condition, and the condition rigidly enforced, no answer to it comes at all. Rigorously to blot out of sight whatever value X and Y may contain, is to regard each alike as wholly valueless, unimportant, insignificant; as that which might just as well not be as be; as that by the doing of which nothing is anywhere gained, nor

by the omission to do it is anything anywhere lost—something completely harmless perhaps, but completely fatuous. Now can anyone fix his mind on actions of such a kind, and still feel obligations (in some cases more, in others less, stringent) to perform them? Could he still feel even the slightest obligation to perform any such act? If anyone says he does, then we must (I think) be faced with one of two alternative situations.<sup>1</sup> Either he *has* played the game according to the rule, completely closed the door on the idea of value, and still sees the obligations which he professes to see. But then he must have a moral insight of a kind completely foreign to my experience, and we can merely go our respective ways. I can no more argue with him about what he sees in those conditions, than I could argue with a cat or an owl about how things look in the pitch-dark. Or, on the other hand, he has *not* completely closed the door on the thought of the value of X and Y and of their consequences, but unconsciously derives the light by which he sees his obligations in respect of them through a crack in that door which he has involuntarily left open. In that case there is room for discussion in case our opinions differ, and at any rate some chance of ultimate agreement.

I am emboldened to hope that such may be the Provost's real procedure by expressions here and there which seem to imply that despite his general repudiation of it in theory, he yet (sometimes at any rate) employs the ideal Utilitarian method in practice. It is by a regard to the character of their consequences that he seems to judge not only (as we have already seen)<sup>2</sup> our *prima facie* duties, but our actual duty here and now. Thus, in deciding 'Ought I to do this act?' the relevant items that we have to bring into account and which 'make a difference to its rightness or wrongness' he first describes (in accordance with his general theory) as 'elements in its nature': but immediately after he adds in a bracket (as an equivalent phrase) '*i.e.*, in *what it is the origination of*'.<sup>3</sup> But what do the words I have italicized denote if it be not the act's *consequences*? And if appeal is to be made to the character of its consequences, to what character except their goodness or desirability can it be addressed? If in that respect they are neutral and of no importance, if it does not matter whether they are brought into existence or not, how can they possibly help us to decide whether the act which 'ori-

<sup>1</sup> We need not consider the third alternative, that he may be only pretending to see distinctions which, in the supposed conditions, he does not in fact see.

<sup>2</sup> See MIND, N.S., 162 (April, 1932), p. 172.

<sup>3</sup> P. 33 n.

ginates' them should be done or not? Again, when we have to choose between a benevolent act and the fulfilment of a promise, admittedly the obligation to do the former increases with the amount of good aimed at: <sup>1</sup> couple this with the description <sup>2</sup> of an 'act' as the 'initiation of change', and is it not implied that the beneficent act's obligatoriness depends upon the *goodness* of the further changes which are 'initiated' by it, *i.e.*, are its *consequences*?

Again, whenever the two rival *prima facie* duties between which we have to decide are both derivatives of the general duty to do as much good as possible (*e.g.*, a duty of justice and a duty of beneficence or of self-improvement), the decision between them will naturally and inevitably be arrived at by asking which of these two acts will do the most good. So that in any case the Provost's alternative method of looking merely at a description of each act and comparing their respective degrees of obligatoriness directly, and apart from the question which will produce the most good, is considerably narrowed. It applies only to cases where one or each of the competing *prima facie* duties is not of this kind, but springs from some other ground; and this surrenders to the ideal Utilitarian method of reckoning obligations through values a considerable slice of territory. Then the question becomes, Ought not the whole field to be surrendered? I at any rate cannot see how in cases of the other kind the alternative method proposed can of itself possibly lead to any result. Suppose (*e.g.*) some one with a mania for keeping promises at all costs to be confronted with a promise the keeping of which will do severe injury to the promisee or to some third party, so that clearly it would be inhuman to keep it. How can I attempt to argue with him? The Provost would allow me to point out the magnitude of the injury as increasing the *prima facie* duty to avoid it: and he recognises the degrees of triviality or seriousness in promises, as effecting the stringency of our *prima facie* duty to keep them. But how can these two disparate kinds of consideration be intelligently or intelligibly balanced against one another unless they are first brought into the same scale, and that a value-scale, *i.e.*, unless by the 'magnitude' of the injury I may understand the great *evil* entailed (presently or prospectively) in it, and unless by trivial or serious promises I may understand those whose breach entails (presently or prospectively) little or much *evil*, or the keeping of them little or much *good*? Or again how could I possibly argue with the humanitarians who shriek at the use of corporal punishment in

<sup>1</sup> P. 19 top.

<sup>2</sup> P. 7 top.

schools, or of the 'whiff of grape-shot' on a murderous or incendiary crowd, unless by comparing the magnitude of the immediate injury caused, *regarded as an evil*, with that of the disorders or murders or destructions thereby prevented, regarded as another *evil* or group of evils, or with that of their prevention regarded as a *good* or group of goods, as complex as you please, but admitting of analysis and comparative valuation?

In conclusion, I would ask, how do the two theories compare in respect of the hope they hold out of our learning to judge our actual duty truly? The Provost is content here (or finds himself driven) to advance only a modest claim. We are committed to 'probable opinion' only.<sup>1</sup> If first we reflect on the *prima facie* rightness or wrongness of the various possible alternatives, it is likely to be truer than if we do not:<sup>2</sup> but, even when 'preceded and informed by the fullest reflection we can bestow on the act in all its bearings', this opinion is 'highly fallible', and it is 'the only guide we have to our duty'.<sup>3</sup> On the other hand, if its fundamental axiom be granted that that act is right which is reasonably calculated to work out for the best, the ideal Utilitarian view, as I have tried to defend it, is, I think, in a decidedly more hopeful case. It resolves itself into the two problems of forecasting what can reasonably be expected to follow from this kind of act or from that, and of comparing the values or groups of value inherent in their several results. Now, in facing this latter task of balancing together two situations containing disparate values (and probably a number of them on each side), we are on tolerably familiar ground. The problem to be solved is only an enlargement over a wider field of the kind of problem that confronts any examiners in an election of candidates to scholarships. There too, in the relatively confined area (say) of literary merit, the most heterogeneous qualities have to be weighed together, greater gifts of expression with greater accuracy, cleverness with diligence, greater knowledge with greater ability in applying it, etc.: and conjectures (the most fertile source of bad elections) have likewise to be hazarded from present attainments to probable future developments. Yet out of all this which at first seems to be a hopeless jumble of incommensurables and uncertainties, experienced examiners have, as a rule, little difficulty in eliciting, and expressing in letters or in numbers, a tolerably agreed order of total merits. On the wider field of values generally which confronts the moral judgement, there is naturally more room for disagreement between different

<sup>1</sup> P. 32.

<sup>2</sup> P. 32 top.

<sup>3</sup> P. 42 top.

judges, than there is between different scholars concerning questions of literary merit ; nor is it probable, for reasons already given,<sup>1</sup> that precise and detailed agreement can ever be reached. The relative merits of two alternative courses of action can never be (as I should claim that the axiom equating the best course with the right course is) a matter of knowledge, partly because they depend upon factors which lie in the future and are necessarily conjectural, partly because even our empirical reading of the situation may be at fault, partly because no man's scale of values is likely to be trustworthy at all points. This, no doubt, leaves our judgements on them in the same boat with the Provost's judgements upon our actual duty, 'probable opinions' only ; but there are two broad and important differences to be observed :

(1) In the first place, most of the principal sources of uncertainty and disagreement in our answers to the question : What is the balance of total good as between X and Y ? can be very greatly reduced at will by the exercise of easily available and familiar forms of reflection. They are reducible to three, differences in the abstract scale of values applied, differences of analysis of the factors in the present situation, and differences of conjecture as to the future situations that, given X or given Y, are likely to develop out of them. As regards the first, already the astonishing thing is not the amount of disagreement there is in the world, but the amount (as between thoughtful and good-hearted people) of agreement ; and steady reflection can be trusted to smooth out gradually such disagreements as remain. The second difficulty, differences in the analysis of present factors, can be solved by more diligent empirical scrutiny. The most fertile source of disagreement, and the hardest to remove, whether in problems of personal or of public policy, is undoubtedly the third, *viz.*, differences of conjecture upon the results of this move or of that. Opposite views, whose truth or falsehood time alone can show, are bound to persist here, *e.g.*, on the probable effects of sternness or leniency in suppressing crime, of giving or not giving malcontents the franchise or a seat in the Councils of State, etc. Here we can only trust to the common sense which springs from alertness and width of experience to render our conjectures shrewd and probable ; and not even the utmost progress that can be hoped for is likely ever to remove wholly this source of individual perplexity and of conscientious political strife. But even here, against these irresolvable difficulties we have to set the enormous number of cases where, if certainty is impossible (as it always is), moral certainty is attainable. In

<sup>1</sup> Pp. 330-331 above.

these several ways an approximation, more or less close, may be made to truth and agreement on the *relative values* of the rival proposed acts. By the Provost's method, unless we are allowed to look at the various features of the disputed acts from this angle of their respective values or degrees of importance, I cannot see how even this approximation to agreement about their claim upon us is possible.

(2) In the second place this margin of irresolvable doubt as to the course which will in fact be 'optimific' does not, according to the theory I have been trying to defend, affect the truth of our judgement of *duty*. For according to that theory the right act is not the act which will in fact bring about the greatest good, but only that which on the most careful possible review of all relevant factors may most reasonably be expected to bring it about. It is therefore possible rightly to apprehend our duty if we base our valuation of our action on the reasonable or best possible forecast of its results, even though in fact something quite unexpected and unpredictable may cause our forecast to be disappointed. If I can arrive at such a most reasonable expectation of the results of an act or train of action, X, and rightly assess them as better worth while than those of any other possible alternative, then (assuming, of course, as the whole detailed working of the ideal Utilitarian method necessarily assumes, the truth of its fundamental axiom) I can know X to be my duty. The doubts and uncertainties, on the other hand, to which we are admittedly liable by the Provost's method, relate directly to the nature of my duty. We are on that theory reduced to this, that we can never know what our duty is. And here again, I venture to think, the theory I have tried to defend interprets our ordinary moral experience better than the theory the Provost advocates against it. Our way is beset (heaven knows!) with 'doubts' enough as well as 'discomfitures': in 'fear and trembling' we must work our salvation out, if at all. But this does not preclude the possibility of knowing, times without number, what our duty is. I can be as certain (*e.g.*) that it is my duty to tell the unpleasant truth on some particular occasion as ever I can be that telling the truth is in general *prima facie* right, or 'tends' to be so: if the one apprehension is knowledge, so is the other. The sting of shame at our failures to do our duty would often be much less sharp than it is if any convenient loophole were open for doubt as to what our duty was, or for the suggestion that perhaps in shirking what we thought our duty we had done our real duty after all. Any moral theory which rules out the possibility of this certainty concerning our particular duties stands, I think, condemned.

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## IV.—DISCUSSIONS.

### USES OF FORMAL LOGIC.

As an interested looker-on at the discussion between Dr. Schiller and Mr. Mace in the last two numbers of *MIND*, I may perhaps have an opportunity of helping to get the issues clearer.

Mr. Mace, in a recent symposium of the Aristotelian Society, expressed complete agreement with Dr. Schiller's previous suggestion that two different kinds of logic should be recognised, one of which—namely, the anti-formal kind—deserved to be called *useful* in contrast to the other. And he now claims to go even further than Schiller in acknowledging the uselessness of Formal Logic. The chief value he would allow for it is that it "satisfies a certain manifestation of human curiosity,"—a kind of satisfaction that might equally be claimed for solving problems in chess.

So far as Mr. Mace is concerned, therefore, it seems at first sight that the opponents of Formal Logic have no further quarrel with him. They, too, regard the Laws of Thought and the Rules of the Syllogism (when made applicable to 'propositions') as rules of a possible game. And since their chief complaint is that the utility of Formal Logic tends to be exaggerated by its students, anyone who completely and consistently escapes this tendency stands apparently secure against their attack.

But another and less personal aspect of the matter may be also worth considering. Mr. Mace does not say what in his view the permissible uses of Formal Logic are; and since the only two he refers to as unimportant are (1) its use in dialectical debate, and (2) its effect in sharpening human wits, it seems likely that he has overlooked the real use which Schiller refers to—that of guiding our less responsible, less disputable, trains of thought. The danger—which may be shortly called that of *exaggerating* Formal Logic's utility—is the temptation to extend this legitimate guidance to cover another use which Formal Logic cannot properly claim.

I would suggest that the question as to the real extent of this danger is what chiefly divides the two parties. Mr. Mace shows no sign of being aware of it, while for his opponents it is not only a conceivable risk, but can be shown in actual working. They find that in fact many people do give way to the temptation, and among them some influential philosophers. Mr. Mace, being chiefly interested in the special puzzles which the game provides, may escape

the temptation altogether, and perhaps this helps to explain his difficulty in appreciating the anti-formalists' point of view. No one is tempted to suppose that practice in chess improves our knowledge of the art of real warfare.

In the view of those who, in general, agree with Dr. Schiller, the chief source of the logical temptation is the fact that all the assumptions made by Formal Logic are *roughly* true, and that the roughness of their truth is easily overlooked, because the occasions suitable respectively for careless and careful reasoning are often not easily distinguished. We all apply the Laws of Thought successfully many times a day; we often reason successfully by applying rules to cases, as in the Syllogism; we use 'propositions' continually without finding them misinterpreted, and we usually understand other peoples' stated opinions, of an uncontroversial kind. Our thoughts, so long as they are easy-going and undisputed, naturally run along the lines of a simple-minded logic. Thus, rightly on some occasions and wrongly on others, we do continually in our daily reasonings, make use of the risky assumptions on which Formal Logic is built.

But with disputable matter all this is changed, and especially where disputes are difficult to settle. The more two-sided any dispute is—*i.e.*, the more natural and excusable the error into which one party has fallen—the more probable it is that some misinterpretation of a verbal statement is responsible for the trouble. The correction of gross errors of fact or of careless verbal slips like the formal fallacies, is a comparatively simple matter. Disputes of that kind have much smaller durability or persistence, smaller excuse for existing, smaller logical interest.

Dr. Schiller's views about the harm actually done by the system are summarised in the last two chapters of his book *Formal Logic*. As he there suggests, it is in the academic world, and especially in philosophy, that the worst of the trouble arises. It is for the sake of philosophy that our recognition of the defects of Formal Logic is chiefly important. Scientific research suffers hardly at all from the tendency to assume that 'propositions' must be either true or false. And the higher grades of common sense are not much affected by it. Nearly all responsible people in these times would laugh at the notion of 'strict logic' having any authority over them.<sup>1</sup> Its purposely restricted vision, its unashamed verbalism, are widely felt to be a troublesome drag upon thought applied to problems of a difficult and important kind. As for the lower grades of common sense, in them precisely the same defects that Formal Logic has when applied to disputable inferences are common enough. Perhaps we can hardly blame the science of Formal Logic for these results since the lower grades of common sense are mostly innocent of any acquaintance with that antiquated lore. Rather, the system itself

<sup>1</sup> Cf. President Wilson's remark quoted on p. 5 of *Logic for Use*.

had its origin in times when common sense was generally at a lower level than now, and when verbalism was rampant. To-day, outside verbalistic philosophy, extremism in complicated matters such as politics and economics is the most obvious example of the harm done by over-simplified reasoning. And extremists are the people who make most claim to be 'logical.'

In his various writings Dr. Schiller has given many examples<sup>1</sup> of the way in which verbalism infects the kind of philosophy which is still unfortunately prevalent at Oxford and elsewhere. The habit of assuming that a 'proposition' is exactly the same as a judgment, that it always (*quād* proposition) has a meaning, and that its meaning remains the same in every context, must make it extremely difficult for the victims of the habit to understand what their opponents are trying to say. But the symposium above referred to is at least a welcome sign that some of them are willing to make an effort in that direction.

It might also help us to keep the chief issue clear if both parties could agree that logical 'necessity' is at most a *claim*, and therefore always open to dispute, for reasons shown. If I use a syllogism (*i.e.*, apply a rule to a case) while overlooking an ambiguity in its M term, the conclusion that seems to me necessary may rightly seem to you a merely verbal inference, and therefore only 'necessary' in the sense in which a checkmate is so when we are playing the game. As Schiller says, the obligation to accept a strictly logical conclusion depends entirely on our own agreement to abide by the rules. And we often have something more important to think about—namely the question whether the conclusion is *true*.

Nor again is it relevant to remind us that we can on occasion rightly and usefully distinguish between correct and incorrect usages of a term. Every one admits that this is the respectable function of dictionaries. But no dictionary ever does, or can, take into account the many insidious differences of meaning which are due to differences of context. We can hardly imagine any occasion on which we could be tempted to use the word 'black' instead of 'white,' but there is often a strong temptation to overlook a difference of meaning which a difference of context has made. For example the word 'place' has a commonly accepted meaning which we all know very well. And yet doubts about the application intended for it under the Betting Act are notoriously possible. In that context we are liable to interpret its meaning wrongly. Our best attempts to follow accepted custom in the use of words are constantly encountering the fact that a slight alteration of context makes all the difference between yes and no. Proverbially what is meat in one (human) context may be poison in another.

These considerations take us out of verbalism altogether and into the region of factual differences that affect the *truth* of our

<sup>1</sup> *E.g.*, *Logic for Use*, pp. 12, 14, 65, 133, 237.

inferences. They lead us to distinguish between the trivial kind of ambiguity which alone is recognised in Formal Logic and the difficult kind which depends on the fact that no general name or list of general names however long, can completely describe any particular case. It is because of this fact that important differences between two cases both of which are 'correctly' described as M often escape observation. It is through ignoring such obscure differences that we are liable to apply the rule 'If M, then P' to cases that do not truly come under it. The extent of this risk corresponds exactly to the deficiency of our knowledge of the relevant *facts* of the matter reasoned about, and as long as our knowledge is imperfect the risk has to be taken into account whenever we care to avoid mistaken inferences.

On the other hand if we restrict our curiosity to the results of a verbal game in which the risk is expressly and intentionally kept from interfering, no one can prevent our getting the satisfaction which belongs to the solving of any kind of parlour puzzle. But the mental habits induced by dwelling among the artificial certainties of playful or non-contentious logic may tend to handicap our efforts at serious reasoning. And at the same time our natural interest in arriving at true conclusions may tend to bring some inconsistency into our desire to keep 'Logic' free from any kind of use. Try as we may to remain well balanced between these conflicting interests the attempt must often be made in vain. Proposition-Logic, used in real inference, has the attractive quality of saving trouble, and of course the saving of trouble is *sometimes* worth while.

ALFRED SIDGWICK.

#### A NOTE ON NICOD'S POSTULATE.

In Prof. Jörgensen's recent work, *A Treatise of Formal Logic*,<sup>1</sup> the deduction of Russell's calculus of elementary propositions from Nicod's single formal postulate

$$[p \mid (q \mid r)] \mid \{[t \mid (t \mid t)] \mid [(s \mid q) \mid ((p \mid s) \mid (p \mid s))]\}$$

is presented in detail. In the introduction to the second edition of *Principia Mathematica*<sup>2</sup> Russell stated merely that the deduction could be made, and referred his readers to Nicod's original article<sup>3</sup> for the actual performance. Nicod's presentation of the argument thus remained the sole published record of the deduction until the appearance of Prof. Jörgensen's work.

Nicod's paper presents the deduction in question in a rather brief and elliptic form. Prof. Jörgensen's rendering of the argument is, superficially at least, just that at which one arrives when one carries out in full the intermediate steps which Nicod summarily indicates. Now the occasion for the present paper is the fact that Prof. Jörgensen's deduction involves two fallacies, and is in actuality no deduction at all.

Misgivings at once arise as to whether these fallacies are essential as well to the original work by Nicod, which has seemingly served as Prof. Jörgensen's guide. Were this the case, Nicod's condensation of Russell's postulates would be exploded; happily, however, it is not. My conviction is that the fallacies in question have arisen only through misinterpretation of Nicod's argument; in any event, as I shall subsequently show, they can be corrected without sacrificing the result.

Nicod's thesis was that Russell's entire calculus of elementary propositions, as presented in the first edition of *Principia Mathematica*,<sup>4</sup> could be generated from the single formal postulate expressed above, with the aid of two non-formal rules: (I) If  $p$  and  $q$  are elementary propositions, then  $p \mid q$  is also an elementary proposition, and hence can be substituted for a propositional variable in any true proposition. (II) Given the truth of  $p$  and of  $p \mid (r \mid q)$ , we may infer the truth of  $q$ . It was his task, therefore, by means of (I) and (II), to generate from

$$(III) [p \mid (q \mid r)] \mid \{[t \mid (t \mid t)] \mid [(s \mid q) \mid ((p \mid s) \mid (p \mid s))]\}$$

<sup>1</sup> Vol. ii., pp. 150 *sqq.*

<sup>2</sup> Vol. i., p. xix.

<sup>3</sup> *Proc. Camb. Phil. Soc.*, vol. xix., pp. 32-41.

<sup>4</sup> Vol. i., pp. 91 *sqq.*

the five formal postulates \*1·2 to \*1·6 of *Principia Mathematica*, together with theorems equivalent to definitions \*1·01 and \*3·01 of *Principia Mathematica*. This much deduced, the remainder of the calculus of elementary propositions of course follows immediately by virtue of the demonstrations given in *Principia Mathematica* itself.

The first theorem which Nicod proceeds to derive from (III) is the principle of identity,  $t \mid (t \mid t)$ , which, by the definition of  $\Box$ , is the same as  $t \Box t$ . This theorem is not among the seven mentioned above; it is needed in preparation for them, however, as a lemma. Indeed, as the deduction is conducted by Nicod (and accordingly by Prof. Jörgensen), the principle of identity  $t \mid (t \mid t)$  is presupposed mediately or immediately in the proof of every one of the seven theorems in question. This lemma  $t \mid (t \mid t)$ , therefore, constitutes the keystone of the whole structure. Hence it is of some moment that the two fallacies with which I am concerned both occur in Prof. Jörgensen's demonstration of this particular lemma. If this lemma collapses, one is left in the situation of not having proved a *single one* of Russell's postulates.

The deduction of  $t \mid (t \mid t)$  as set forth by Nicod is not only brief, but obscurely enough presented to admit of misinterpretation: a too facile interpolation of the intermediate steps which he indicates, or might be interpreted as indicating, is likely to lead to fallacy. Since the literature appears to contain no detailed presentation of the deduction of  $t \mid (t \mid t)$ , with the sole exception of the fallacious one by Prof. Jörgensen, my present object is to fill this hiatus. The remainder of the deduction of Russell's calculus of elementary propositions, from the proof of  $t \mid (t \mid t)$  forward, is adequately and satisfactorily presented both by Nicod and by Prof. Jörgensen, and hence needs no repetition here.

Before presenting the deduction of  $t \mid (t \mid t)$ , I shall point out briefly the fallacies which I have found in Prof. Jörgensen's presentation. This presupposes a few remarks on the matter of notation. Prof. Jörgensen adheres to the general usage of *Principia Mathematica* in employing groups of dots instead of parentheses, brackets and braces. I shall follow him in this convention, which is a valuable one in formulae of high complexity. Prof. Jörgensen, however—like Nicod—reduces the number of dots needed by availing himself of three different typographic styles of stroke. I shall dispense with this device both in my own work and in my transcriptions from Prof. Jörgensen, and depend upon the method of dots exclusively. Prof. Jörgensen, furthermore, adopts Nicod's bar notation:  $\overline{p \mid q}$ , for example, would mean  $p \mid q \cdot \cdot p \mid q$ . I shall do away with this abbreviation, and adhere to the latter form alone.

In any lengthy deduction in terms of the stroke, there is danger of becoming inextricably involved in a veritable labyrinth of stroke functions. Therefore Prof. Jörgensen follows Nicod in introducing certain single letters as temporary abbreviations for specified complex expressions. His conventions follow:

$$\begin{aligned}
 P &= p \cdot | \cdot q \cdot | r & \text{Df} \\
 \pi &= t \cdot | \cdot t \cdot | t & \text{Df} \\
 Q &= s \cdot | q \cdot | : p \cdot | s \cdot | \cdot p \cdot | s & \text{Df} \\
 Q_1 &= s \cdot | t \cdot | : t \cdot | s \cdot | \cdot t \cdot | s & \text{Df}
 \end{aligned}$$

The first *non sequitur* in Prof. Jörgensen's deduction occurs in the derivation of his lemma (14).<sup>1</sup> This lemma takes the form

$$\begin{aligned}
 (14) \quad Q \cdot | \pi \cdot | : : : Q_1 \cdot | \pi \cdot | \cdot \pi : | : : \pi \cdot | \cdot \pi \cdot | Q_1 : \\
 | \cdot Q \cdot | \pi \cdot : | : : \pi \cdot | \cdot \pi \cdot | Q_1 : | \cdot Q \cdot | \pi.
 \end{aligned}$$

Prof. Jörgensen informs us in the margin that it is derived by substitution of  $Q \cdot | \pi$  for  $s$  in lemma (13). Lemma (13) runs as follows :

$$\begin{aligned}
 (13) \quad s \cdot | : : : Q_1 \cdot | \pi \cdot | \cdot \pi : | : : \pi \cdot | \cdot \pi \cdot | Q_1 : | \cdot s : \\
 | : : \pi \cdot | \cdot \pi \cdot | Q_1 : | \cdot s.
 \end{aligned}$$

Now it must be kept in mind that  $\pi$  and  $Q_1$  are mere shorthand for two complex expressions, whose values are given explicitly above. If a substitution be made for  $s$  throughout (13), therefore, such occurrences of  $s$  as may lie concealed within  $\pi$  and  $Q_1$  must not be overlooked. Referring to the above definitions, we see that  $\pi$  does not involve  $s$ , but only  $t$ , wherefore it may be dropped from consideration in the present connection.  $Q_1$ , on the other hand, contains three occurrences of  $s$ . In the three occurrences of  $Q_1$  in (13), therefore, nine occurrences of  $s$  lie concealed. In passing from (13) to (14) Prof. Jörgensen has thus committed the fallacy of partial substitution, replacing three occurrences of  $s$  by  $Q \cdot | \pi$  and leaving nine occurrences of  $s$  untouched. If the substitution of  $Q \cdot | \pi$  for  $s$  in (13), which he signalises, were actually performed, the correct result would be

$$\begin{aligned}
 &Q \cdot | \pi \cdot | : : : Q \cdot | \pi \cdot | \cdot t : | : t \cdot | \cdot Q \cdot | \pi : | : t \cdot | \cdot Q \cdot | \pi : | \cdot \pi \cdot : : : \\
 &\pi : : : | : : : \pi \cdot | : : : \pi \cdot | : : Q \cdot | \pi \cdot | \cdot t : | : t \cdot | \cdot Q \cdot | \pi : | : t \cdot | \cdot \\
 &Q \cdot | \pi : : : | \cdot Q \cdot | \pi : : : | : : : \pi \cdot | : : : \pi \cdot | : : Q \cdot | \pi \cdot | \cdot t : | : t \cdot | \cdot \\
 &Q \cdot | \pi : | : t \cdot | \cdot Q \cdot | \pi : : : | \cdot Q \cdot | \pi,
 \end{aligned}$$

which is a useless theorem, incapable of playing the rôle for which (14) was designed.

This error would of course never have occurred if  $s \cdot | t \cdot | : t \cdot | s \cdot | \cdot t \cdot | s$  in (13) had been expressed in full instead of in the abbreviated form  $Q_1$ . The above abbreviations have proved a pitfall, designed though they were to facilitate deduction. The reader will find, however, that the present fallacy can easily be eliminated without violence to the remainder of the deduction. Prof. Jörgensen obtained his lemma (10) by the following substitution upon Nicod's formal postulate :  $\pi \cdot | \cdot \pi \cdot | Q_1$  for  $p$ , and  $Q_1 \cdot | \pi \cdot | \cdot \pi$  for both  $q$  and  $r$ . Let this substitution be discarded in favour of the following one :  $\pi \cdot | \cdot \pi \cdot | Q_1$  for  $p$  and  $Q_1 \cdot | \pi \cdot | \cdot \pi$  for  $q$  and  $r$  as before, and  $u$  for  $s$ . Lemmas (10), (11), and (13) will thus give way to similar lemmas

<sup>1</sup> Throughout this discussion, cf. Jörgensen: *op. cit.*, vol. ii., pp. 150-151.

(10'), (11'), and (13'), which differ from the former ones only in exhibiting  $u$ 's instead of the *explicit* occurrences of  $s$ . Then (14) can be derived from (13') by substitution of  $Q \mid \pi$  for  $u$  in (13').

The fallacy which remains to be pointed out arises, like the preceding one, from failure to analyse the abbreviated expressions. This second fallacy occurs in the derivation of Prof. Jørgensen's lemma (16) :

$$(16) \quad Q \mid \pi . \mid : Q_1 \mid \pi . \mid . \pi.$$

This is supposed to emerge by substitution of  $Q_1 \mid \pi . \mid . \pi$  for  $P$  in

$$(9) \quad Q \mid \pi . \mid . P.$$

Here we are dealing in abbreviated complex expressions to the exclusion of all else. If  $Q_1 \mid \pi . \mid . \pi$  can be substituted for the complex expression  $P$ , it must of course be of the form of  $P$ , *i.e.*, of the form  $p . \mid . q \mid r$ . This condition, we find, is fulfilled. For, turning to the list of abbreviations, we see that  $Q_1 \mid \pi . \mid . \pi$  means

$$Q_1 \mid \pi . \mid : t . \mid . t \mid t,$$

and is thus of the form  $p . \mid . q \mid r$ . "The substitution of  $Q_1 \mid \pi . \mid . \pi$  for  $P$  in (9)" thus merely means the substitution of  $Q_1 \mid \pi$  for  $p$ ,  $t$  for  $q$ , and  $t \mid t$  for  $r$ , throughout (9). At this point the fallacy appears —a fallacy, again, of partial substitution. For, the  $Q$  in (9) exhibits within itself one occurrence of  $q$  and two occurrences of  $p$ , as our definitions bear out. Yet Prof. Jørgensen, in passing from (9) to (16), has substituted  $Q_1 \mid \pi$  only for the one occurrence of  $p$  in  $P$ , and has left unchanged the two occurrences of  $p$  in  $Q$ ; similarly he has substituted  $t$  only for the  $q$  in  $P$ , and has not dealt with the occurrence of  $q$  in  $Q$ . The nature of the error is obvious when (9) is written out in the unabbreviated form

$$s \mid q . \mid : p \mid s . \mid . p \mid s . : \mid . \pi : : \mid : p . \mid . q \mid r.$$

Substitution herein of  $Q_1 \mid \pi$  for  $p$ ,  $t$  for  $q$  and  $t \mid t$  for  $r$  would clearly yield, not (16), but

$$s \mid t . \mid : : Q_1 \mid \pi . \mid . s : \mid : Q \mid \pi . \mid . s : : \mid . \pi . : : \mid : Q_1 \mid \pi . \mid . \pi.$$

The reader will find upon investigation that this fallacy cannot be eliminated with so slight a modification of the general argument as was adequate in the preceding case; the roots of the present difficulty penetrate more deeply into the general structure of the deduction. I have, therefore, deemed it advisable to present the deduction of  $t . \mid . t \mid t$  anew in the present pages.

I shall refer to Nicod's non-formal rule of inference and formal postulate as (II) and (III) respectively, in conformity to the numbering used earlier in the present paper. Explicit reference will not be made to (I), the non-formal rule dealing with substitution; like Nicod and Prof. Jørgensen, I shall indicate substitutions in the

manner of *Principia Mathematica*. Thus,  $(n) \frac{a, b, c, \dots}{x, y, z, \dots}$  means that  $a, b, c, \dots$  have been substituted respectively for  $x, y, z, \dots$  throughout the true proposition  $(n)$ .

I shall avail myself of the following abbreviations, retaining  $\pi$  and  $Q_1$  but dropping  $P$  and  $Q$  in favour of  $A$ ,  $B$ , and  $T$ :

$$\begin{array}{ll} \pi = t \cdot | \cdot t | t & \text{Df} \\ Q_1 = s | t \cdot | : t | s \cdot | . t | s & \text{Df} \\ A = Q_1 | \pi \cdot | \cdot \pi & \text{Df} \\ B = s | t \cdot | : Q_1 | \pi \cdot | . s : | : Q_1 | \pi \cdot | . s & \text{Df} \\ T = \pi \cdot | \cdot \pi | Q_1 & \text{Df} \end{array}$$

To proceed with the demonstration of  $t \cdot | \cdot t | t$ , or  $\pi$ :

(i) $T$	$\left[ \text{(III)} \frac{t, t, t}{p, q, r} \right]$
(ii) $T \cdot   : \pi \cdot   : s   \pi \cdot   : \pi  $ $s \cdot   . \pi   s$	$\left[ \text{(III)} \frac{\pi, \pi, Q_1}{p, q, r} \right]$
(iii) $s   \pi \cdot   : \pi   s \cdot   . \pi   s$	$\left[ \text{(i). (ii). (II)} \right]$
(iv) $s   \pi \cdot   : \pi   s \cdot   . \pi   s \cdot   : \pi \cdot   : u \cdot   . \pi   s :   : s  $ $\pi \cdot   : u \cdot   . \pi   s :   : s  $	$\left[ \text{(III)} \frac{s   \pi, \pi   s, \pi   s, u}{p, q, r, s} \right]$
(v) $u \cdot   . \pi   s :   : s   \pi \cdot   . u :  $ $: s   \pi \cdot   . u$	$\left[ \text{(iii). (iv). (II)} \right]$
(vi) $T \cdot   . A   A$	$\left[ \text{(v)} \frac{\pi, Q_1}{u, s} \right]$
(vii) $T \cdot   . A   A :   : \pi \cdot   : B  $ $\pi \cdot   . A :   : T \cdot   . B   \pi :  $ $: T \cdot   . B   \pi$	$\left[ \text{(III)} \frac{T, A, A, B   \pi}{p, q, r, s} \right]$
(viii) $A \cdot   . \pi   B$	$\left[ \text{(III)} \frac{Q_1   \pi, t, t   t}{p, q, r} \right]$
(ix) $A \cdot   . \pi   B :   : B   \pi \cdot   . A$ $:   : B   \pi \cdot   . A$	$\left[ \text{(v)} \frac{A, B}{u, s} \right]$
(x) $B   \pi \cdot   . A$	$\left[ \text{(viii). (ix). (II)} \right]$
(xi) $B   \pi \cdot   . A :   : T \cdot   . B  $ $\pi :   : T \cdot   . B   \pi$	$\left[ \text{(vi). (vii). (II)} \right]$
(xii) $T \cdot   . B   \pi$	$\left[ \text{(x). (xi). (II)} \right]$
(xiii) $\pi$	$\left[ \text{(i). (xii). (II)} \right]$

The reader will note on effecting a comparison that the first six steps of the above proof are identical with as many steps of Prof. Jörgensen's argument,<sup>1</sup> aside from accidents of notation and sequence. He

<sup>1</sup> Cf. Jörgensen, *loc. cit.*

will note further that the only additional point of convergence is the conclusion.

We can very quickly assure ourselves *a priori* that the above proof is free from such fallacies as have been discussed earlier—namely, fallacies of incomplete substitution arising from the presence of abbreviations in the formulae in which the substitutions are made. For, the only lemmas in the above proof which arise from substitution are (i), (ii), (iv), (vi), (vii), (viii), and (ix). Of these (i), (ii), (iv), (vii), and (viii) are derived by substitution for  $p$ ,  $q$ , and  $r$ , or for  $p$ ,  $q$ ,  $r$ , and  $s$ , in (III). Now (III), written in the most abbreviated form which my above definitions permit, is

$$p \cdot | \cdot q | r : | : : \pi . | : : s | q . | : p | s . | . p | s.$$

The sole abbreviated expression here— $\pi$ —contains neither  $p$ ,  $q$ ,  $r$  nor  $s$ , but only  $t$ , and hence presents no danger in any of these substitutions. As to (vi) and (ix), these are obtained by substitution for  $u$  and  $s$  in (v). Since (v) involves no abbreviated expression but  $\pi$ , which is free from both  $u$  and  $s$ , we need have no misgivings in this quarter. We are assured, therefore, against fallacies of the type uncovered in Prof. Jörgensen's deduction.

As to the legitimacy of my proof in other respects, the reader can verify this only by performing the indicated operations for himself. This can be done at a glance in the case of the derivations of (iii), (v), (x), (xi), (xii) and (xiii), all of which proceed by the application of (II) to pairs of earlier lemmas. Lemmas (iv) and (vii) can also be verified at a glance, being the obvious results of the indicated substitutions upon

$$p \cdot | \cdot q | r : | : : \pi . | : : s | q . | : p | s . | . p | s.$$

Similarly in the case of (ix), which comes of merely writing  $A$  and  $B$  for  $u$  and  $s$  in (v). But each of the remaining four lemmas, (i), (ii), (vi) and (viii), can be checked only by carrying out the indicated substitution in detail and *then* introducing the proper abbreviations into the result.

Parenthetically, it is interesting to note that the five expressions which I have abbreviated in the above definitions are themselves all truths of logic, and can be readily inferred from the above lemmas.  $T$  and  $\pi$  are already proved, in lemmas (i) and (xiii) respectively. By the rule of inference, (II),  $Q_1$  follows from (xiii) and (i), and similarly  $A$  follows from (i) and (vi). From the truth of  $A$  in turn, together with (viii), we can infer  $B$ .

Let me add that the above proof of  $t \cdot | \cdot t | t$  is intended merely as the correct interpretation of Nicod's original argument, inverted to normal order, cleared of ambiguities of exposition, expanded into its details, and modified slightly with a view to elegance.

W. V. QUINE.

## V.—CRITICAL NOTICES.

*Mind and Matter.* By G. F. STOUT. Cambridge, at the University Press, 1931. Pp. xii + 325. 12s. 6d.

PHILOSOPHY, according to Prof. Stout, has two parts, *viz.*, (1) an analysis of ordinary experience in order to find a coherent account of the principles involved in it, and (2) an enquiry as to whether the universe is a self-complete unity, or an endless series, or an aggregate. In this, the first volume of his *Gifford Lectures*, Prof. Stout considers what is involved in one's knowledge of oneself, of the physical world, and of other selves. The volume is divided into four Books. The first deals with the *Animism of Common-Sense*; the second is concerned with the *Psycho-physical Problem*; the third discusses, from an historical and critical point of view, our *Knowledge of Physical Existence*; and the fourth, which discusses the same subject independently, contains Prof. Stout's own positive doctrine.

In Chapter I. Prof. Stout enquires what authority philosophers ought to attach (*a*) to Common-Sense, and (*b*) to Science. He points out that "Common-Sense" may mean either the beliefs of the average man as opposed to the expert, or "the whole in which the partial views due to one-sided interest and experience are so combined and harmonised that they converge again to a focus". When philosophy appeals to Common-Sense it is certainly not appealing to the plain man as against the expert, except in so far as there is reason to think that the expert has some particular narrowness or blindness, in consequence of his special training and interests, which makes him ignore aspects of reality that plain men recognise. Nor is the appeal directly to the consensus of opinion of educated persons; for, on vitally important topics, there is no such consensus. The philosopher has first to compare and correlate various conflicting views, including those of technical experts; to allow, so far as he can, for personal, professional, racial, and historical bias; to take into account religious, ethical, æsthetic, and social experiences, and their embodiments in religions, social institutions, and works of art; and thus to formulate the beliefs of Common-Sense for himself before appealing to Common-Sense as a witness or a judge.

All this seems to me true and important. I would only add that the philosopher must remember that he is himself a technical expert with certain special sources of bias. He would not have become a

philosopher unless his tastes and interests had been considerably different from those of most men.; he could not follow his calling unless he denied himself many experiences which most men value highly ; and his professional training and mode of life may make it hard for him to understand and to appraise fairly a career of passionate emotion or vigorous action, not " sicklied o'er with the pale cast of thought ".

When the philosopher has formulated for himself the beliefs of Common-Sense he must not swallow them whole. He must first ask whether any of them are likely to be racial illusions, completely explicable by certain features in human nature and human history which have no tendency to produce true belief and a strong tendency to produce false belief. He must not, however, think that, because a certain determinable opinion has been held by primitive men in a determinate form which is now known to be false, it must therefore be false in every possible form that it could take. The fact that it has always been held in some form or other is, *pro tanto*, a point in its favour. Again, the philosopher should expose even those parts of the Common-Sense view against which there is no presumptive evidence to every objection that he can think of himself or that other competent thinkers have suggested. Any belief that passes these tests should be provisionally accepted, provided, I suppose, that it does not conflict with other beliefs which have also passed them. The mere fact that experts in a certain special domain, using certain special methods, see no reason to accept such a belief may be dismissed as irrelevant.

This brings us to the question : " What weight should be attached to the fashionable contention that natural science ought to be the sole arbiter in all theoretical questions ? " It is only necessary to state clearly what are the objects and the methods of natural science in order to dismiss this claim as unfounded. The object is to discover general laws of sequence and co-existence by means of which we can infer what is likely to happen under assigned conditions. The method is that of observation, extended by hypothesis and generalised by induction. Now there is obviously a great deal in the world beside general laws of sequence and co-existence, and we are interested in a great many other things beside inferring what is likely to happen under assigned conditions. And it is quite certain that induction, if it can be justified at all, cannot be justified by the methods of natural science.

The rest of Book I. is devoted to one special feature in the Common-Sense view, *viz.*, " the tendency to find Mind in Nature generally, and not only in the form of individual minds connected with particular bodies such as those of men and animals ". This Prof. Stout calls " Common-Sense Animism ". He discusses it in three aspects, *viz.*, in connexion with causal process, in connexion with teleology, and in connexion with æsthetic experience. His conclusion is that this feature in the Common Sense view cannot be dismissed in

limine as a relic of barbarism, but must be treated with respect. Whether it can survive philosophic criticism remains to be seen ; and the upshot of the detailed enquiries of the rest of this volume is held to be that it can and must be accepted as valid.

It seems to me that the most important topics in the book are (1) Prof. Stout's attempt to refute Materialism, (2) his theory of Activity and of our awareness of it, (3) his theory of the nature of the physical world and our knowledge of it, and (4) his theory of the embodied self and our consciousness of it. These subjects are closely interconnected, but I will separate them as far as I can and discuss them in the above order.

(1) *Refutation of Materialism.* This is treated mainly in Book II. In Chapter I. Prof. Stout points out that the relations of mind to matter can be approached in two different ways. On the one hand, there is the subject-object relation in which any mind stands to anything that it cognises. On the other hand, there is the psychophysical relation in which each mind stands only to a certain very limited parcel of matter, *viz.*, its own organism.

Now the scientist necessarily ignores certain aspects both of the human body and of the human mind. Each of us knows his own body in a peculiar way in which no-one else can know it, *viz.*, through "internal perception". And each of us in ordinary life regards his body, as so known, as a part of himself. "What we know or seem to know in ordinary self-consciousness . . . is a concrete whole within which mind and body are only abstractly distinguishable as partial factors. It is, however, the mental factor which gives the whole the character of being a self or 'I'" (p. 67). Now, owing to the essential privacy of this datum, the scientist cannot start from it. It is necessary for his purpose to deal only with public data. Hence he has to treat every human body, including his own, simply as it appears to external perception, *i.e.*, to the senses of sight and touch.

As regards the mind, Prof. Stout thinks that the scientist, in his professional capacity, almost inevitably takes the view that there is a series of events, each of which is purely mental and not physical, and that these in some unexplained way "represent" other events which are purely physical and not mental. He points out that any such view makes the knowledge of physical events by human minds, which the scientist assumes to exist, quite unintelligible. In this connexion Prof. Stout asserts that "my idea of X" is not something existentially distinct from X, but is "X, as it appears to me". (It is clear that, even if this be in some sense true, it needs to be very much explained and qualified before it will become plausible when, *e.g.*, Mr. Pickwick is substituted for X.) He also remarks that there are mental facts about physical objects. Thus it is a mental fact about a certain picture that it reminds me of a certain scene, whilst it is not a mental fact about the picture that it is painted in oils on canvas. Any predicate that belongs to an object only in virtue of the fact that some mind cognises the object is a mental predicate.

The scientist as such, then, almost inevitably takes an inadequate view of the human body and a largely mistaken and superficial view of the human mind. The scientific discussion of the psycho-physical problem is, therefore, bound to be philosophically unsatisfactory. Prof. Stout undertakes to show that, even within the limits thus imposed, the scientific theories about the mind-body relation raise fundamental metaphysical difficulties.

The three alternative theories are Interaction, Parallelism, and Materialism (by which Prof. Stout means Epiphenomenalism). The first two assume the existence of two kinds of substance, *viz.*, minds and bodies. The third assumes that certain bodily events *generate* mental events, as distinct from partially determining changes in a pre-existing mental substance. Taken as purely scientific theories, *i.e.*, simply as attempts to state in general terms the observable connexions between events in brains and mental events, Common-Sense has nothing to say against any of them. But it is extremely difficult to keep Materialism within these limits, since the concept of generation, which is an essential part of it, is quite different from the ordinary scientific notion of causation or of the production of a compound by the more intimate union of previously dispersed elements. On the other hand, when *all* the observable facts are taken into account, Materialism is much more satisfactory, as a scientific theory, than Interactionism or Parallelism. For many facts strongly suggest that each mind is *existentially* dependent on its body, and is not an independent substance which interacts with its body or runs a parallel course to the latter. Now neither Interactionism nor Parallelism can account for these appearances without making elaborate supplementary assumptions. So the position is this. Either there is some fundamental objection to Materialism or there is not. If there is not, it holds the field. But, if there is, we cannot simply reject it and accept one of its rivals as it stands. The rivals will have to be developed and supplemented until they are no longer merely scientific theories.

I agree entirely with Prof. Stout in this conclusion. I would only add that I am inclined to think that, in order to account for some of the facts dealt with by Psychical Research, Materialism would have to be abandoned or supplemented in a most elaborate way, even if there were no philosophic objections to it.

In Chapter III. Prof. Stout ignores Materialism for the moment and discusses Interactionism *versus* Parallelism. His conclusions may be summarised as follows: (1) There is no trace of empirical evidence for interaction. No doubt this negative fact could be explained consistently with interaction, but this could be done only by making supplementary hypotheses for which there is no ground unless we are convinced that interaction *must* be a fact. (2) The mere dissimilarity of mind and body is not an adequate ground for denying the possibility of interaction. (3) It is self-evident that interaction can take place only between parts of a whole which has

some special kind of inner unity. In physics the unity is that of a single spatial system, but this cannot be the unity between a mind and its body. So a mind and its body cannot interact unless they be united by some other kind of tie. For, otherwise, why does my mind act on a certain body only and not on other bodies, and why is it acted upon only by this same body and not by others ? (4) Similar remarks apply to Parallelism. Unless mind  $M$  be united by some special tie to body  $B$  why should events in  $M$  run parallel to those in  $B$  rather than to those in  $B'$ , and why should events in  $B$  run parallel to those in  $M$  rather than to those in  $M'$  ? (5) Thus both theories must admit that they presuppose some specially intimate tie between a mind and what is called *its* body. Now, when the nature of this union is carefully considered, it is seen to be too close and intimate to admit of interaction. Something like the Double-Aspect Theory must be accepted. But we must not assume that the nature of the one Thing, and the way in which it combines its two Aspects, are unknowable to us. In ordinary self-consciousness we are directly aware of this one thing with its two aspects, *viz.*, our embodied mind or our ensouled body.

In Chapters IV. to VII. inclusive, Prof. Stout attempts to refute Materialism as a philosophic theory. He begins by pointing out that the utmost that the empirical facts can tell us is that the apparent origin, development, and ending of any mind are determined by material conditions, and that no other conditions can be observed. It does not follow that no other conditions are needed, nor that, if there be other necessary conditions, they are not themselves mental. It is true that we have no empirical evidence for the existence of minds other than those connected with human and animal organisms. But an intelligent ant might find no evidence for minds animating those—to it—enormous and incalculable material systems which are human organisms. And so it is not antecedently impossible that there may be mind in nature where we see no trace of it. This, I think, must be admitted for what it is worth.

The argument in Chapter V. is as follows : The laws of nature, which are established by scientific induction, are laws of the correlated variation of interconnected determinables. And the various special laws are not independent and isolated ; they fall under more general laws and form a single interconnected system. Were this not so, little, if any, reliance could be placed on inductive generalisations. All this is generally admitted about inanimate matter, but about animate matter there is a controversy. Organisms have the appearance of being teleological systems. Some people think that no ultimate *laws* hold of living matter which do not also hold of inanimate matter, and that the peculiar behaviour of living organisms is due to the very special *arrangements* of the non-living elements of which they are composed. Other people think that some of the *laws* of living matter are unique and ultimate. These alternatives

are the mechanistic and the vitalistic. On this controversy Prof. Stout's position is as follows :—

(1) Materialism implies a mechanistic view of organisms. Any ground that there may be for regarding a mechanistic view as inadequate to account for the teleological character of organisms is a ground for postulating in connexion with them an agency analogous to mind, and is, therefore, a ground for rejecting Materialism. (2) The converse does not hold. The mechanistic view of organisms might be true, as Prof. Stout is himself inclined to think, and yet it might be necessary to postulate the agency of something akin to mind in order to account for the very special material collocations which would be responsible for the origin, development, and peculiar behaviour of organisms. (3) Even on the vitalistic view the laws of organisms, though not *derivative from* those of inorganic matter, would be concerned with the same determinables, *viz.*, motion, energy, spatio-temporal structure, etc., and with their correlated variations. To ask whether the origin of organisms can be accounted for by the laws of inorganic matter is to ask an intelligible question, even if the answer be in the negative. To ask whether the origin of a mind can be accounted for by the laws of matter, whether inorganic or organic, is to ask a meaningless question. For we are now concerned with the manifestation of a new determinable characteristic, and not with the correlated variations in value of already manifested determinables. Science may quite properly say that it can discover nothing but the material conditions of mental events. But, if anyone says that these are the *complete* conditions, he is, according to Prof. Stout, asserting what is self-evidently impossible.

In § 6 of this Chapter there is an argument to show that Materialism is logically incoherent. I am not sure that I understand it, and so I am going to state what seems to me the essential point in my own way. We must remember that Prof. Stout takes it to be an essential feature of Materialism that all mental events are "effects" which are not themselves cause-factors in the production of further effects. Now it is plain that, if there be any evidence for the doctrine that all mental events are completely determined by material conditions, it must consist almost wholly of testimony. Now for each of us this testimony takes the form of noises, gestures, or marks made by other human bodies. If we accept Materialism as a complete account of the facts, all these noises, marks, and gestures are completely determined by purely material causes, and any mental events which may accompany them have nothing whatever to do with causing them. If so, it is most rash to assume that they are accompanied by and are the expressions of thoughts, feelings, and other mental events. But, unless they are assumed to be so accompanied, they are no evidence for any proposition about mental events, and are therefore no evidence for the proposition that all mental events are the inert by-products of purely material causes. This argument does not of course disprove Materialism. But it does show that it is a logically

incoherent doctrine, in the sense that the more strongly one came to believe it the less right one would have to attach any weight to the alleged evidence for it.

The argument in Chapter VI. claims to show that Materialism assumes a kind of causation which bears no likeness to that which is recognised by science and Common-Sense, and is simply unintelligible. It may be summarised as follows : (1) The validity of induction, at any rate as a process by which probable conclusions can be rationally drawn, must be accepted as a fundamental datum. No-one *really* doubts it, and we are much more certain of it than of any epistemological theory which would throw doubt on it. (2) Consequently anything that can be shown to be involved in the validity of induction must be accepted. (3) Now it involves at least the following principles about change and causation. There are certain ultimate continuants, which neither come into being nor pass away in the course of nature. Coming to be and passing away happen only in connexion with compound continuants. Such changes consist in the fact that certain ultimate continuants begin or cease to stand to each other in certain determinate forms of those determinable relations in which they always stand to each other. Again, all changes of quality or relation take place in accordance with general laws, such that each change is completely determined by the particular conditions which immediately preceded it in accordance with these general laws. The reason why we can make only probable inferences about matters of fact is because we can never be sure that we know all the relevant conditions or the precise form of the relevant laws. It is not because the laws themselves are only statements about probability, or because it is uncertain whether matters of fact are completely determined by previous conditions in accordance with laws. Lastly, qualitative change is always the manifestation of a determinate under some determinable which has already been manifested in some other determinate form. It is never the manifestation of a determinate under some hitherto unmanifested determinable. (4) It follows at once that, if the world ever consisted wholly of things which had only primary qualities, it could never begin to manifest secondary qualities. If we suppose that the manifestation of secondary qualities is determined by the action on minds of things which have only primary qualities, we give up Materialism at the first move. For this hypothesis assumes the existence of mental continuants as well as material ones; and it is contrary to the general principles of change that these continuants should have been generated from pre-existing purely material continuants. (5) Let us suppose then, as we certainly must, that material things always have had secondary, as well as, primary qualities. Suppose, if possible, that the world at one time consisted wholly of things which had primary and secondary qualities but no mental characteristics. Then it could never have begun to manifest mental characteristics. For there is just the same disparity between

the characteristic of cognising or desiring and that of being red or hot as there is between the characteristic of being red or hot and that of being extended or movable. There is no determinable under which psychical and physical characteristics are determinates, even when physical characteristics are taken to include secondary qualities. In asserting that purely physical processes suffice to "produce" mental events, the Materialist is simply talking without thinking and without conveying any meaning to his hearers. His statement sounds intelligible because the word "produce" has a meaning when used in science of such processes as the "production" of water from hydrogen and oxygen. But this cannot be what it means when used in the present connexion, and the plain fact is that it means nothing to anyone when so used.

In Chapter VII. Prof. Stout considers the relation of Materialism to teleology. The argument may be summarised as follows: (1) There are certain objects which we distinguish as "artificial", e.g., books, bridges, etc. These always have among their cause-factors certain movements of human bodies. And they are designed and desired by the human beings who make these movements. (2) The Materialist must hold that the desires and thoughts which accompany such movements play no part in determining them. The bodily movements are completely determined by purely physical causes, and the accompanying desires and thoughts are idle by-products of the latter. (3) This view is rightly condemned by Common-Sense as incredible. Let us grant that it is conceivable that the collocations of matter in the original nebula were such that at a certain time they would inevitably give rise to a certain organism which would go through the movements that produce the manuscript of *Hamlet*. There still remains the inexplicable coincidence that then and not till then there also arose certain thoughts and desires of which this manuscript was the expression, although these mental events had no influence whatever in determining the movements which produced the manuscript. Even if it were intelligible that purely material events should produce experiences at all, there is not the faintest reason why the experiences produced when the bodily movements are made should have the least relevance to the movements or the manuscript. On the Materialist view such undesigned and inexplicable coincidences are continually happening. Since this is incredible, we must assume that in such cases mental events do play a part in determining bodily movements. (4) It is, however, quite certain that they are not the complete causes of such movements. Unless the mind were provided with an organism of a very special kind, and unless this organism were very specially adapted to its material environment, the volitions would be ineffective. Now the adaptation of a mind to the organism which it animates, and of the latter to the rest of nature, is certainly not due to any human or animal mind. Since it is an instance of teleology it must be ascribed to something akin to design. Hence we are forced to

postulate the agency in nature of mind which is not that of any human being or animal.

The last stage of this argument does not seem to me very impressive. Why should there not be laws in nature, analogous to those of chemical affinity, such that a certain kind of rudimentary mind and a certain kind of rudimentary organism were attracted to each other? And why should not the detailed adaptation of the developed mind to its developed organism be due to the constant influence of each on the other in the course of their joint development?

(2) *Activity and our Awareness of it.* The two chapters in which most information is given on this subject are the second of Book I, and the sixth of Book IV. Where they overlap it would seem that the latter is meant to be a more accurate statement of what has already been propounded more popularly in the former. I must confess that I find it extremely difficult to understand Prof. Stout's doctrine on this subject, and what follows may well be irrelevant and mistaken.

Activity is described in Book IV., Chapter VI., as a characteristic of certain processes. It is that characteristic which "gives to a process the unity of an action, as contrasted with a plurality of separate occurrences assumed to compose it by their temporal and spatial juxtaposition". This characteristic has degrees, and the concept of a completely active process is an ideal limit. "In so far as a process is active, events in it have no loose and separate being apart from it; they exist only as stages or phases in it".

It is not at all clear to me what, on this view, would be meant by calling a process "imperfectly active". Taking any process  $P$ , and any event  $E$  within it, it must be the case that an event otherwise precisely similar to  $E$  could or that it could not have occurred outside  $P$ . What then can be meant by saying that  $P$  is only "slightly active" or that it is "very highly active"? Would  $P$  be a very active process if and only if it contained many events such that events otherwise precisely similar to these could not have occurred outside  $P$ ? And would  $P$  be only slightly active if and only if it contained few such events? The notion of a process composed of a mixture of events, some of the one kind and the rest of the other kind, is not very easy to grasp. Perhaps the situation could be clarified by introducing McTaggart's notion of "sets of parts". A set of parts of any whole is a group of its parts which together just make it up without omission and without repetition or overlap. One and the same whole may have many different sets of parts. Now one way of giving a meaning to the notion of degrees of activity would be the following: (i)  $P$  is an active process if and only if it has at least one set of parts such that no event precisely similar in other respects to any member of this set could have occurred except as a phase in  $P$ . (ii)  $P$  is a completely active process if and only if every set of parts of  $P$  has this property. (iii)  $P$  is more or less active

in proportion as it has more or fewer sets of parts which have this property.

There is perhaps another way in which the notion of degrees of activity could be made consistent with Prof. Stout's statements about activity in general. Suppose, as before, that  $P$  is a process and  $E$  is an event in it. Then, even though no event exactly like  $E$  in other respects could have happened except as a phase in  $P$ , it may be that events in other respects more or less like  $E$  could happen without being phases in  $P$ . We might then suggest the following meaning for "degrees of activity".  $P$  would have a high degree of activity if and only if every event that can occur without being a phase of  $P$  bears very little resemblance to any event which is a phase of  $P$ .  $P$  would have a low degree of activity if events which very closely resemble phases in  $P$  can occur without being phases in  $P$ .

Before leaving this part of the subject there is a further possibility to be mentioned. So far we have confined our attention to a given particular process  $P$ , such as a certain performance of a certain opera. Let us now take into account other processes, more or less like  $P$  as wholes. Then we might say that  $P$  is only slightly active if either (a) events very unlike phases of  $P$  can occur as phases in processes very like  $P$ , or (b) events very like phases of  $P$  can occur without being phases in any process that closely resembles  $P$ . And we might say that  $P$  is very highly active if no event which even remotely resembled a phase in  $P$  could occur except as a phase in a process which very closely resembled  $P$ . I have no idea what Prof. Stout would say to any of these suggestions. But I do think that he has left the whole conception of activity and its degrees in very considerable obscurity, and that some further pronouncement by him would be very helpful to readers of his book.

I will now try to state in my own words what I understand to be Prof. Stout's theory of the connexion between activity and causation. This is developed in the course of a criticism of Hume's theories on the same subject. (1) The primary experience from which we derive the idea of activity is that which we have when we try to move something, or to resist being moved. It is not necessary that the effort should be successful, and it is not sufficient that sensations of movement should be experienced without voluntary initiative or control. (2) Whenever we are aware of our own agency we are aware of it, not as a total cause, but as one cause-factor in a total cause which contains other cause-factors. (3) We *know* that it has a tendency to produce the desired result; that, if the other cause-factors are as we believe them to be, the desired result will inevitably follow; and that, on the same hypothesis, the desired result will inevitably fail to take place if we fail to take this action. But we may be mistaken as to the nature of the other cause-factors, and so the desired result may fail in spite of our action or may take place in spite of our failure to act. (4) One's own contribution to such a transaction is

itself a complex unity of simultaneous and successive partial movements. The special nature and the special order of these is largely determined by the purpose and interest of which the action is the expression. My total action and the other cause-factors with which it co-operates are conceived as phases in a whole which bears to them the same kind of relation that my action as a whole bears to its own partial phases. Unless my actions had this kind of internal unity to a fairly high degree I could not conceive the unity of any process in which they and other cause-factors co-operate as a total cause. If, on the other hand, my own actions had this internal unity to so high a degree as to be completely self-contained, I could not conceive of transactions in which I and other things or persons each play their parts. (5) We are therefore bound to conceive interaction in general as taking place between processes, each of which has its own internal unity and a tendency to go on of itself in a certain characteristic way in the absence of the rest. They interact with each other and modify each other's development because they are phases in a single more complex process, just as each of them is a whole in which there are simpler phases united in a characteristic way. (6) The unity of a whole whose parts are co-operating cause-factors can be conceived only by analogy with the unity of an action whose various phases are expressions of a single interest or purpose. This plainly does not entail that each cause-factor must be conceived as analogous to a mind with a will of its own. But it does imply that the various processes which interact in nature must be conceived as various phases in a single process which expresses a single interest or purpose. And this cannot be the interest or purpose of any human or animal mind.

(3) *The Physical World and our Knowledge of it.* In the earlier chapters of Book III. Prof. Stout expounds and criticises certain important theories on this subject. The theories chosen for discussion are those of Descartes and Locke, of Berkeley and Mill, of Leibniz and Lotze and Ward, and of Kant. Kant's theory receives the most elaborate treatment and has two chapters allotted to it. I propose to pass at once to Chapter V., in which Prof. Stout states and defends the view which he has developed in the course of his criticism of the other theories. It may be summarised as follows : (1) Each of us is acquainted at each moment with certain particular existents, *e.g.*, sensa, feelings, thoughts, etc., and about these he has knowledge by acquaintance. (2) Any knowledge that anyone may have about any existent with which he is not then acquainted must be founded upon his present acquaintance with some other existent. (3) Knowledge by acquaintance about a particular never occurs by itself. It is always one factor in a total cognitive state which contains as another factor knowledge, founded upon that acquaintance, about some other particular which is not at the time an object of acquaintance. (4) It is a fundamental fact that, somehow or other, we have genuine *knowledge* about independent physical objects.

(5) We are never acquainted with any physical object. Knowledge of physical objects is founded upon acquaintance with sensa, and knowledge by acquaintance about sensa is inseparably bound up with knowledge of physical objects founded upon acquaintance with sensa. (6) Though knowledge of physical objects is *based upon* acquaintance with sensa, it is not *inferred from* what we know about sensa by acquaintance. It is non-inferential knowledge, though it is not knowledge by acquaintance.

Prof. Stout illustrates and tries to recommend these doctrines by the analogy of remembering a past experience. It is certain that I am not acquainted with such an experience when I am remembering it. It is certain that I could not remember it now unless I were now acquainted with something relevant, *e.g.*, an image. It is certain that I do not reach my memory-knowledge that I had this experience in the past by inference from what I know by acquaintance about the present image. Anyone who admits these contentions about memory, and yet denies the possibility of Prof. Stout's doctrine of our knowledge of physical objects, must rest his case on the following distinction. What we remember are our own past experiences, with which we were or might have been acquainted when they were happening. But physical objects are not and never have been our experiences, and they are not things with which we ever could be acquainted. Prof. Stout denies that this distinction is relevant. And the difference, though still great, is in fact not so great for him as it is on many theories. For he holds that the sensa which we sense are elements in the physical world. And he holds that the experiences which we introspect always have material as well as mental characteristics.

It is of course no part of Prof. Stout's doctrine that all our judgments about physical objects which we perceive are correct in every detail. No such claim would be made for memory-judgments. What is claimed is that we *know* that there are physical objects and *know* that we have had experiences which we are no longer having, and that we have *rational beliefs*, which can be made more and more comprehensive and certain by suitable methods, about the details of the physical world and about the details of our own past experiences.

The theory outlined above is worked out more fully in Book IV. Prof. Stout begins by elaborating the distinction between internal and external perception. Internal perception is that peculiar kind of awareness which each of us has of his own body and of certain changes in it, and which no-one has of anyone else's body or of changes in it. Internal perception does not involve for the percipient any distinction between a sense-organ by which he perceives and an object which he perceives by means of it. In external perception the percipient always perceives internally the sense-organ which he is using, in addition to perceiving an external object. And he internally perceives his sense organs only in using them to perceive external objects.

Every visual field, no matter what its content may be, has the same fundamental inner structure. There is a central part of maximum distinctness, and in every direction from the centre the distinctness of the content tails off towards the periphery. Now I can at will bring any item from the periphery to the centre. While this is happening it will increase steadily in distinctness; other items which were central will meanwhile become peripheral with a steady decrease in distinctness; and so on. Such changes as these I can determine whenever I like, and they will always follow the same general course. But these are the only changes that I can count on being able to make at will in the visual field. I have no direct control over its concrete filling. And sometimes changes even of the kind which we have been describing take place independently of my will. Now I ascribe the constant structural features of all my visual fields to my eye and its structure, and I ascribe the variable concrete filling of my visual fields to external objects which I perceive with my eye. I ascribe the transference of an item from the centre to the periphery of a visual field, and *vice versa*, to the fact that I am perceiving the same external object with different parts of my eye. When such changes are initiated, continued, modified, and reversed at will I ascribe them to the motion of my eye. When they take place without or against my will I ascribe them to the motion of external objects.

The same general principles apply to the perception of external objects by touch. Here, however, there is an additional complication. I cannot see my own eyes; my perception of them is purely internal. But I can touch my own hands. So, when I perceive an external body with my right hand, I have, not only an internal perception of my right hand, but also an associated idea of this hand as an external object which has been felt in the past by my left hand. The way in which this association works is as follows. My present perception of the external object by my right hand is inextricably bound up with my present internal perception of that hand. My previous external perception of my right hand by means of my left hand also involved an internal perception of my right hand. My present perception of the external object by my right hand is linked by this common factor with the idea of my right hand as an external object which I got when I perceived it by means of my left hand. Prof. Stout thinks that this is the basis of measurement by superposition.

Whenever I touch anything I have pressure-sensations with a characteristic local sign. These give me at the same time an internal perception of my hand and an external perception of the body which it is touching. Now I can voluntarily initiate a certain bodily process, *viz.*, that of pressing or thrusting, which I internally perceive by means of certain characteristic sensations. The intensity of the pressure-sensations in general varies with this process. Sometimes it varies very little, as when I push a match-box over

a smooth table. I then perceive the external object as offering very little resistance. Sometimes it varies very greatly, as when I push a heavy table. I then perceive the external body as offering very great resistance. In both cases I perceive myself as acting and being resisted. In other cases such changes of pressure-sensation start without my initiating them, but I can determine by my subsequent action whether they shall increase greatly or slightly. In such cases I perceive an external body as acting on me, and myself as resisting it with more or less vigour. Prof. Stout thinks that such experiences constitute our primitive perception of causal interaction between two physical things, and that any account of perception which ignores this dynamical aspect of it is essentially inadequate.

This view must be contrasted with what Prof. Stout calls the *Causal View*. On the Causal View we never *perceive* physical objects as interacting and thus determining variations in our sensible experience. We always *infer* their existence and actions as remote conditions of our sensations and their changes. This is the characteristic view of natural science when it becomes reflective, and Common-Sense accepts the Causal View in regard to many sensible experiences, *e.g.*, dreams, variations in the visual appearances of remote objects, etc. Prof. Stout's contention is that the Causal View can legitimately be applied over a very large range of facts, but that it undermines itself if extended so far as to exclude his theory. For the Causal View presupposes that we know, or have some reason to believe, that there are physical objects and that they interact with each other. If Prof. Stout be right, we *do* know this by direct perception in the case of our own bodies and their interactions with external bodies which they touch, push, pull, resist, etc. With this knowledge as basis each of us can legitimately regard his body as, *inter alia*, a physical object that can be known by external perception; and from this basis a causal theory can be developed. But, if the Causal View be extended to cover the whole field of perception, it can neither account for the notions in terms of which it is formulated nor justify the presuppositions on which it is based.

The third Chapter of Book IV. deals with the Sensory Continuum. The following are the main points. Our knowledge of physical objects depends on two inseparable factors in our experience, *viz.*, the sensing of sensa and the perception of acting and being acted upon. The former is the basis of our knowledge of the kinematic, geometrical, and qualitative aspects of matter; the latter is the basis of our knowledge of its causal and dynamic aspect. Although the two sides of the one experience are indissolubly connected, they can to some extent be treated separately. Prof. Stout begins with the sensory side.

Sensa of the same kind, sensed by the same individual, are found not to be isolated and independent. They are rather to be regarded as outstanding differentiations in a single sense-continuum. The

various sense-continua, visual, tactful, auditory, etc., which fall within the acquaintance of a single individual are interconnected into a single continuum by the intimate connexion of each with the continuum of this individual's organic sensations.

Now the physical world as a whole is also conceived as a unified system. But its unity is not thought to be at all closely analogous to that of any finite individual's sense-continuum. Sensa which are intimately connected in my sense-continuum may be manifestations of physical objects or events which are only remotely connected with each other, and conversely. The sense-continuum of any individual corresponds directly only to a certain small part of the physical world, *viz.*, his brain and nervous system and certain processes in them.

Prof. Stout suggests that the sense-continuum of each different finite individual is a different selection out of a much wider and more enduring world-continuum, and that it stands to the world-continuum in a similar relation to that in which a particular sensum stands to the sense-continuum of which it is a differentiation. It may be that the greater part of the world-continuum is not an object of acquaintance to any finite mind. But we have no need to assume that this part is ontologically different in kind from those parts which are the sense-continua of the various finite individuals. And it is not incredible that the whole world-continuum might be the sense-continuum of a single non-human mind.

The advantage claimed for the above hypothesis is that it makes the apparent coming into being and ceasing to be of a sense-continuum at the birth and the death of an individual less mysterious than it would otherwise be. It is like the coming into being and the passing away of a sensum in an individual's sense-continuum. And the physical and physiological conditions on which such changes depend will be ontologically homogeneous with their effects, since they will be changes in other parts of the world-continuum, *viz.*, those parts with which no human mind can be directly acquainted but which are not ontologically disparate from the parts with which we are acquainted.

It seems to me that such a suggestion cannot be judged unless it is worked out in much greater detail. It seems plain that the world-continuum would have to have many more "dimensions" than any known sense-continuum in order to account for the facts, and in general that its structure would have to be very different from that of any known sense-continuum. Exactly how much analogy would remain when this was allowed for I cannot pretend to say, but I suspect that there would be very little. And the supposition of a mind which was acquainted with all the sensa that any mind is acquainted with, though not logically impossible, is contrary to all analogy with known facts, since it implies that two minds can be acquainted with one sensum.

Chapter IV., whilst still confined to the sensory side of perception,

is mainly epistemological, as contrasted with the predominantly ontological interest of Chapter III. The gist of it is as follows. Our knowledge of sensa by acquaintance and our knowledge of physical objects by sense-perception are both instances of *knowledge* and are both *immediate*, in the sense of being non-inferential. But there the resemblance between them ends. The test for the former is simple inspection of the datum with which one is acquainted. The test for the latter is correlation with other perceptions into a coherent system of physical judgments.

Prof. Stout distinguishes between what he calls "the perceptual appearance of a physical object" and "the immediate content of sense-perception in perceiving it". He identifies the former with "what the physical object appears to be" in a particular perception of it. The immediate content of sense-perception may vary without any variation in the perceptual appearance. There are, *e.g.*, very good reasons to hold that the visual sensum which I sense when looking at a match-box increases in extensity as I move across the room towards the box. But it cannot be said that the box "looks" larger or smaller during the process. On the other hand, a variation in the sensum *may* involve a variation in the perceptual appearance. If a man, at whom I am looking, climbs up a tall chimney, the visual sensum which I sense decreases in extensity and the man does "look" smaller than he did when he was on the ground. Conversely, I suppose, the perceptual appearance may vary while the sensum remains unchanged. It would be plausible to suggest that this happens with the figure which sometimes looks like a staircase and sometimes like an overhanging cornice.

Prof. Stout also introduces, in this connexion, the term "perceptual datum". He defines this as "the probability that a thing is as it seems to be in this or that perception taken in isolation or comparative isolation from others by which it might be confirmed or upset". This does not seem to be very accurately put. I would suggest that what Prof. Stout means is the following. The fact that in a perception the perceived object *seems* to be so-and-so is a datum with respect to which there is *always* a finite probability, and *never* a certainty, that it *is* so-and-so. Judgments of the form "This physical object *is* so-and-so" can and must always be tested by their coherence with a whole system of perceptual data. We are thus led to draw a distinction between the characteristics which a perceived thing most probably has, when all the relevant perceptual data are taken into account, and those which it undoubtedly seems to have in a certain perceptual situation. A stick, which almost certainly is straight, undoubtedly looks bent when half in air and half in water. This discrepancy compels us to recognise a distinction between something that we are acquainted with, which must *be* bent in order to account for the object looking bent, and something else, which we are perceiving by means of this bent sensum, which is almost certainly straight. Once our attention has been drawn to the distinction by

glaring examples like this, we are led to inspect the sensa with which we are acquainted in other cases. We shall then very often find that there are variations in the sensum which make no difference to the perceptual appearance of the perceived object.

In Chapter V. Prof. Stout discusses the status of secondary qualities. The orthodox view is that physical objects really do have the qualities of shape, extension, motion, etc., and that we can discover the determinate values of these qualities in any particular case by comparison of and reflexion upon the perceptual appearances. But bodies do not have such qualities as colour, temperature, etc., at all. Now it has to be granted that bodies seem to have secondary qualities just as much as they appear to have primary qualities. And it must be admitted that the appearances vary from subjective causes in the case of primary qualities as much as they do in that of secondary qualities. Thus the orthodox view is not easy to maintain.

The physical reality of primaries is admitted because otherwise the whole causal order of nature, as known to science and Common-Sense, would break down. What is the difference between secondaries and primaries which has caused so many people to reject the physical reality of the former whilst accepting that of the latter? And is this difference relevant?

The difference is this. There are two ways in which we can pass to the notion of an objective determinate quality. One of them is applicable to both primary and secondary qualities, but it does not carry us very far. The other is applicable only to primary qualities, and it is capable of indefinite extension and refinement. The first method is to assign certain standard conditions of perception, e.g., white light, a normal human eye, etc., and to identify the determinate value of a quality which really belongs to a body with that which appears to belong to this body when it is perceived under these standard conditions. This method never gets rid of reference to a percipient. The second method is twofold. (i) It identifies the real determinate qualities with those values which have to be assigned to physical determinables in order to bring the changes of bodies into a single system of causal law. (ii) It uses measurement by superposition of one body on another. These two factors are mutually interlocked. We could not formulate or test laws unless we could more or less accurately measure the values of the variables involved in them. On the other hand, our more delicate measurements are possible only by indirect methods which presuppose a knowledge of causal laws. This second method reduces reference to a percipient to a minimum. But for two reasons it can be applied only to primary qualities. It is only in respect of their primary qualities that physical objects are superposable extensive quanta, forming a single spatial and kinematic system. And it is only the primary qualities of objects that seem to be directly relevant to their causal interaction. It seems to be only in terms of extension and motion that fundamental laws, pervading the whole of nature,

like those of geometry, mechanics, and electromagnetics, can be formulated.

Is the apparent causal irrelevance of secondary qualities also real? Prof. Stout holds that it is not. Everything in nature has both primary and secondary qualities. In those parts of nature with which we are acquainted, *viz.*, sensa, both kinds of quality are manifested to us inextricably united. We can often infer with high probability the determinate primary qualities of parts of nature with which we are not acquainted, but we cannot infer with any high probability even the determinable (much less the determinate) secondary qualities of such parts of nature. The secondary qualities of any physical thing are correlated with its primary qualities. But the connexion is not causal, for this would involve the same kind of difficulty as the "production" of mental events by purely non-mental causes. The secondary qualities of a given thing at a given moment must be causally determined by its secondary qualities at the previous moment and by the secondary qualities of other things which are interacting with it. But we have no means of discovering the laws of this causal determination of secondary qualities. Instead we have to be content with *de facto* rules of correlation between secondary and primary qualities, and genuine causal laws of the determination of primaries by primaries.

In Chapter VI. Prof. Stout discusses the part played by the experience of activity in our perception of physical objects. His doctrine is as follows: The experience of pushing, pulling, thrusting, resisting, etc., gives us the perception of ourselves as agents in transactions in which other agents co-operate as cause-factors. On this kind of perceptual experience is based the notion of the physical world as a system of interacting substances. But this would not suffice to account for our perceiving one of these agents as our own *body*, and conceiving the rest of them as other *bodies*. It is the sensible aspect of our total experience which accounts for this factor in our knowledge of the physical world.

(4) *The embodied Self and Self-consciousness.* This subject is dealt with in Chapter VIII. of Book II., and Prof. Stout reverts to it in the last two chapters of the volume. Prof. Stout says that the notion of a disembodied mind is as alien to Common-Sense, at all stages of culture, as Materialism itself. And he agrees with Common-Sense in rejecting the notion.

There are certain common expressions, such as "I am seeing a bird", in which it seems obvious that we cannot substitute for "I" either "my mind" or "my body". Sometimes, indeed, the word "I" is used as equivalent to "my body", as when I say that some day I shall be mouldering in the grave. But in such cases I realise that what will be mouldering will not be "I" in the sense in which that word is used when I say that I am seeing a bird. There are also phrases like "I see with my eyes", "I lift my hands", etc. But one cannot substitute "my mind" for "I" in such phrases and keep

in touch with Common-Sense. Nor can one substitute "my body" or "a certain part of my body".

Prof. Stout's interpretation of such facts is as follows. Whenever I am aware of myself I am aware of something which combines in an inseparable unity two factors. On reflective analysis these can be distinguished, and one is then recognised as mental and the other as bodily. Now my body is known to myself and to other people by sight and touch and hearing as one material object among others. And on reflexion I identify the self of which I am aware, in respect of its material aspect, with the whole or some part of my body as a perceived material object. *E.g.*, what I am aware of as "I" when I say that I am seeing a bird includes something which on reflexion I should identify with what other people see as my eye. What I am aware of as "I" when I say that I am thinking hard includes something which, on reflexion, I should identify with an inner part of what I can touch and other people can see as my head. And so on.

In the third section of Chapter IV. of Book III. the opposing theory of Monadism is criticised. And in the third and fourth sections of Chapter VI. of Book IV. there is a very elaborate criticism of Ward, who is regarded as the strongest representative of the view that we could begin by being aware of ourselves in isolation, and could then arrive at a belief in the existence of other individuals interacting with us, on the basis of this experience and reflexion upon it.

Prof. Stout's own view is that one's belief that certain bodies, other than one's own, are animated by minds is reached by inference. Resemblance between such bodies and one's own is neither necessary nor sufficient to justify such an inference. The real basis is as follows: We act towards these bodies on the hypothesis that they are animated by minds like ours, and see if they respond as they might reasonably be expected to respond on that hypothesis. In some cases the hypothesis is verified in such minute detail and over so wide a field that doubt becomes impossible. It must be remembered that, on Prof. Stout's view, each of us starts with the positive *knowledge* that he is an embodied mind, that there are other bodies which interact with each other and with his own, and that the processes of external nature are expressions of mind akin to but other than his own. What remains to be determined is whether certain particular parcels of matter are animated by individual minds; and this question can be decided in many cases quite certainly and unambiguously by appropriate evidence in the way of responsive bodily behaviour.

There remains one other point to be noticed, *viz.*, Prof. Stout's view about the physiological correlates of mental events. In the case of sensation I understand his view to be that in having a sensation I internally perceive a certain physiological process. This same process, as it would be externally perceived by an idealised physiologist or anatomist, is what would then be called the "physiological correlate" of my sensation. The question then arises whether acts and processes of thinking and feelings of pleasure and pain have

special physiological correlates distinct from the physiological correlates of acts and processes of acquaintance with *sensa* or images. Prof. Stout holds that there is no reason to think that they do. Every difference in thought, according to him, is correlated with a difference in sensation or imagery, and every difference in the latter has its correlated physiological difference. It is only in this indirect way that thought can be said to have a physiological correlate. And similar remarks are held to apply, *mutatis mutandis*, to pleasure and pain, which are alleged to be essentially bound up with the experience of successful or of thwarted conation.

It is plain that a great deal of Prof. Stout's book might be true, and would be important, even if the animistic doctrine which he thinks he has established were rejected or held to be unproven. The criticism of Epiphenomenalism or Materialism, the theory of a non-inferential knowledge of particulars with which one is not acquainted, and the contention that we have such knowledge of material things, all merit most serious consideration even by those to whom the Animism appears fantastic. The same may be said of the doctrine of internal and external perception, the account of the embodied mind, the criticism of Hume's theory of causation, and the positive theory of our perception of causation through awareness of our own active co-operation with and resistance to other things. Speaking for myself, I must gratefully acknowledge the pleasure and stimulus which I have received from Prof. Stout's treatment of all these fundamental points. If little is conclusively proved, some old alternatives are almost disproved, and several new alternatives, which may be of great importance, are suggested and shown to be highly plausible. But the animistic theory, to which all these clues are supposed to point, is so vaguely formulated that I can neither conceive it clearly nor see what entails it or what it entails. I strongly suspect that, if it ever became definite enough to be susceptible of criticism, it would be found to solve no old difficulties, to raise many and great new ones, and to derive but a feeble probability from the facts which Prof. Stout adduces in its support.

C. D. BROAD.

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*Kulturphilosophische Grundlegung der Politik.* By RICHARD KRONER.  
Berlin, Junker und Dünnhaupt, 1931. Pp. 112. R.M. 5.50.

NOTHING could illustrate better than this book the width of the gulf which still separates the Rationalist<sup>1</sup> and Empiricist traditions in Philosophy, and especially in the sphere of Political Philosophy.

<sup>1</sup> I use the term 'Rationalism' in a wide sense to include the whole development of the tradition from Descartes to Hegel, and do not confine it to the period of 'dogmatic Rationalism' between Descartes and Leibniz.

In other spheres of Philosophy the two traditions differ in the solutions which they give to the most fundamental problems, but the problems at least are common to both ; in this sphere they seem to differ not merely in their solutions, but in the problems which they try to solve. In the theory of knowledge we have at least attained a position from which we can see that Kant and Hume were opposites on the same ground, but in Political Philosophy we have not yet achieved a standpoint from which it is possible to see that Locke and Hegel were even contraries. The traditions of each remain in this sphere so divergent that they cannot even come to grips in argument, and to pass from one to the other is to step into a different world of thought.

The problem which Prof. Kroner sets himself to solve is one which is acute for any political philosophy built upon Hegelian foundations, but one which can hardly arise within the scope of an Empiricist speculation. The very translation of its terms into their English equivalents, charged as these are with Empiricist associations, the substitution of "Law" for "Recht" and of "Politics" for "Politik", makes it wear a dress so strange that it is hardly recognisable. I do not think, therefore, that an apology is needed if I begin by endeavouring to make clear in my own words and by a parallel for which I alone am responsible what I understand this problem to be and how I conceive it to have arisen.

Plato conceived that the law of the city was just in so far as it realised an eternal idea. Only the same universal and non-temporal essence which satisfied the intellect of the philosopher could claim the obedience of the citizen. No doubt in order to be realised as a particular in the world of sense, the idea must be plunged into the flux of 'becoming', but all the qualities which are relevant solely to the possibility of its temporal realisation (*i.e.*, to the acquisition and maintenance of *power*) are as accidental to its justice as they are impenetrable by the philosophical understanding. So far the problem with which we are concerned does not arise. But Plato himself in the *Republic* goes on to impute to the idea of the state a singular characteristic when he implies that to it, as to no other idea whatever, temporal realisation would constitute an added perfection. If he had pursued this implication, and had conceived it to belong to the essence of a state to be realised in time, he would have been involved in the necessity of enquiring how the temporal process of its coming to be was related to its philosophical derivation from its idea. The idea, apprehended by the reason of the *Nomothetes*, may dictate its own specification down to the minutest detail of an intricate system of laws ; but such a system itself remains ideal, and reason is powerless to take the final step of enforcing the regulation, however minutely it may determine it, that is to say of passing beyond the ideal and universal to the concrete and particular. To effect this passage there is required a power below the determination of reason and beyond the scope of dictation by the idea, a power, that

is to say, which is necessarily and by definition unjust. To the problem set in these terms there can be only one answer. The relation between the ideal derivation and the temporal enforcement is one of blank opposition ; so that, although it belongs to the idea of justice to be realised, it can be realised in no earthly state.

The problem thus set to the political philosopher is not quite the problem of 'Politik', though it contains the root of it. The latter problem arises when it is conceived to belong to the essence of the state that it should be not merely a temporal but an historical reality, for as such its very laws must be conceived as the product of a temporal process. The 'idea' of the state is no longer dependent upon a force which it cannot inform merely for the administration, or for the ultimate act of the application of a law, of which reason has determined the form ; the very law itself which is to be applied has come to be in a temporal process and as the product of activities directed, it seems, wholly upon temporal ends and certainly informed by no philosophical apprehension of the 'idea' of the state. This process is the history of the state and these activities are comprised in the concept of 'Politik'. The problem which then arises can be stated very simply : it belongs to the essence of positive law, or 'Recht', both that it should be just and that it should be (historically) real. It seems that it can be just only in so far as it is determined by conformity to some timeless standard, but that it can be real only in so far as it is determined by a temporal process. How are these two determinations to be reconciled ?

The essence of the Hegelian solution of this problem I take to lie in the subordination of the temporal to the ideal determination. This latter Hegel conceives no longer, like Plato, as proceeding from a system of ideas, which, themselves static, can be actively determinant only through the dialectical reason of the philosopher who develops them to their conclusions, but as derived from the spontaneous self-development of the idea to its own conclusions through the timeless process of its own Dialectic, a course which it is the proper business of the philosopher to retrace in thought, but which does not depend on him for its initiation. This dialectical process does not stop short at the limits of the ideal and surrender the power of its particular realisation to a temporal process not under its control, but has itself the power to enter into the particularity of the historical world, and itself to dominate the temporal process in which the later stages of its task of self-realisation must be carried out. No more in this latter stage than in the former does it require the conscious co-operation of individuals for its development, but can subdue to its own ends the 'Politiker' whose conscious purpose may never rise beyond the end of his own self-interest ("Die List der Vernunft"). And (we may add) the path which it has traced through the temporal process may be, no less than the course of the Dialectic, retraced by the philosophical understanding, so that there is a Philosophy of History as well as of the eternal.

I think Prof. Kroner would be the first to claim that his theory is Hegelian in spirit, in that it seeks a solution to this problem in the subordination of the temporal process of *Politik* to the realisation of the 'idea' of the state. But it is time to pass to some account of what his theory is.

Professor Kroner does not doubt that there is an 'idea' of the state (p. 71), something, that is to say, which is distinguishable from the being of an individual state as essence is distinguishable from particular embodiment (p. 23), as meaning ("Sinn") from particular expression (pp. 23, 25), as end from its realisation, or as task ('Aufgabe') from its particular fulfilment (p. 40). It is the business of the philosopher to comprehend this 'idea' (I am using this word in no technical sense, but simply as a general term to indicate that which is thus diversely expressed), and to understand the individual state as its realisation (p. 25). But the 'idea' is not 'ideal' in the Empiricist sense that it has being only *quâ* object of the philosopher's comprehension, but is the 'real essence' by which the being of the individual state is genuinely determined, and it can guide an understanding of the latter (serve as *ratio cognoscendi*) only because it is the real ground of its existence (*ratio essendi*).

How is this 'ratio essendi' to be conceived? Not as a Platonic idea, or 'nature of being', but as the *nature of consciousness*. It is the nature of consciousness to be riven by the tension of two opposite 'poles' within it, which Prof. Kroner names the poles of objectivity and subjectivity, or of universality and individuality, of unity and multiplicity respectively. This tension is perhaps most obviously exemplified in the moral conflict within the individual consciousness, although it is not confined to this single manifestation, but reappears at every stage in the development of consciousness, so that it may show itself in another form as the tension, *e.g.*, between the will of the state and that of the individual. This nature of consciousness is the ultimate reasonable ground of the state, as well of its moral justification as of its philosophical comprehension; and the tension originally present in it supplies it, through the need to overcome it, with the driving force of its self-development towards its own unity, in the process of which one of the higher stages is the realisation of the state (p. 39): though the fact that even here the tension reappears in another form is a sign that this is not the final stage of the process.

This development, then, corresponds to the ideal or 'dialectical' derivation of the state; how is it related to 'Politik', the temporal process of its realisation? At this point Prof. Kroner's argument seems to me to waver and his doctrine to become blurred. 'Politik' is defined as that which produces the real existence of the state ("die Existenz des Staates erzeugt" p. 19). But clearly this activity of realisation can be conceived in either of two distinct ways: (i) the law of the state may be conceived as determined already into the fullest complexity of systematic detail of which it is capable as a

*system of law*, i.e., as something whose essence it is to be formal and general not concrete and particular. Such a system can achieve concrete existence as an historical reality only in so far as it is *carried out* in particular cases, and this carrying out implies that the system is made the object or 'content' of a particular act of will. This act of will may be conceived as proceeding from the ruler, and will then be the activity of government or administration, the application of the law in particular cases, lacking which it would clearly lack concrete reality. (This is the supplementation of Right by Power.) But the activity of the ruler cannot dispense with a corresponding activity on the part of the subject; the supremely important condition of the realisation of the law in this sense is its free and active acceptance by the subject, who, making the law the object of *his* will, carries it out and realises it in all the particular actions of his life as a citizen. This will of the subject is the moral will (Hegel's "sittlicher Wille"), and Prof. Kroner speaks accordingly of the state as a "product of the moral consciousness" ("ein Erzeugnis des sittlichen Bewusstseins," p. 32).

But (ii) the 'realisation of the state' may mean something quite different from this. It may mean not the temporal act in which the law is carried out, but the temporal activity *by which it receives its determination as law*. We have been speaking as though the development of law into the complexity of its systematic detail were determined by a rational and not a temporal necessity; as though this development passed into the temporal sphere and under the control of temporal influences only in the final step from the particular law to the individual case. But this is clearly not so; in any historical state the particular laws themselves have been determined to be what they are by the working of historical causes, and are dependent for their constitution as law, not merely for their carrying out in individual cases, upon a temporal activity. This activity also is 'Politik', and it is in this sense of the word alone that 'Politik' is equivalent to the English 'Politics'.

It is only when it is recognised that laws are dependent on a temporal power not merely to supply the force to carry them out, but for the determination of their very content, that the problem of the relation between the historical and the 'ideal' processes of their determination can be squarely faced. Hegel's solution is, as we have seen, that the 'political' activity of men who make states (and the same will apply to men who make laws within them) is guided *without their consciousness and against their will* by the 'idea' which uses them as tools in the process of its self-realisation, and there are passages in which Prof. Kroner seems to offer a solution the same in principle (pp. 25-26, 85 ff.). But the Hegelian position implies the consequence that 'political' action in this sense of the word is necessarily immoral ("unsittlich") because it is the differentia of moral action that it is determined not merely in accordance with a principle but by the conception of a principle (this distinction is very

clearly enforced by Prof. Kroner, pp. 26-29), whereas the action of the law-maker is supposed to be guided by an idea of which he is wholly unconscious. I think it is an instinctive recoil from this consequence which impels Prof. Kroner to ascribe to the 'Politiker' some degree of insight into the idea which is realised by his activity; to make him at the same time something of a philosopher (p. 17, *cf.* 25). The activity of the politician is certainly moralised by this concession, but Prof. Kroner is only impaled by it on the other horn of a dilemma. The concession implies an adhesion to the principle of the political philosophy of the "Aufklärung", which Hegel spent half his life in demolishing: the principle, namely, that the individual reason has access to an 'idea' of right, in the light of which it can judge all positive institutions.

I think Prof. Kroner is prevented from facing this problem by the ambiguity of his conception of 'Politik' (perhaps the deficiency is really in the German language), and by failure to recognise the different meanings which may be borne by the phrase 'realisation of the state'. There is a sense, as we have seen, in which the realisation of the state depends upon the moral consciousness of the subject; and what is perhaps the central doctrine of this book is based on the assumption that such moral activity is not merely the necessary but the sufficient condition of its realisation. This doctrine is that, though it is the end and idea of the state to be that in which the original division of consciousness may be overcome, it necessarily fails to achieve this end completely, because it cannot afford a complete satisfaction to both of the 'poles' of the individual consciousness. The 'pole of unity', *i.e.*, in this case the moral will, finds scope for its fullest exercise in willing the system of laws in which the state consists. But the 'pole of multiplicity', that carnal nature with which the moral will is eternally at war, finds no such complete satisfaction in that 'realisation of the law', in which the moral will is wholly satisfied. Therefore, the tension of consciousness is not stilled in the state; the division reappears as that between the will of the state and the individual will, and this tension achieves its expression within the state in the strife of internal, and especially of Party-politics (*cf.*, *e.g.*, pp. 33, 74, 81, 84). Internal politics are thus, as Prof. Kroner has said elsewhere, both the sign that the state has failed to realise its idea completely, and a compensatory satisfaction to the carnal nature which is baulked, by reason of that failure, of its proper satisfaction in the state as such.<sup>1</sup> (The final reconciliation of consciousness, we may add here for the sake of completeness, is achieved, according to Prof. Kroner's theory, only in the philosophical understanding, which overcomes the dualism still persisting within the state by realising its necessity: *i.e.*, by solving the problem to which this book is devoted, *cf.* pp. 58-69.)

<sup>1</sup> Cf. his article "Politik u. Weltpolitik" in the *Zeitschrift für Politik*, 1916. ("Die Tätigkeit der Parteien ist sozusagen der historisch einzige mögliche Ersatz für den Idealstaat im Frieden", *ibid.*, p. 27.)

This conception of 'Politik' is no longer consistent with the definition of 'Politik' (p. 19), as that which brings the state into existence. This is no activity of state-founding or law-making, but an ebullition of repressed elements of consciousness, which the law must tolerate, since they are the nemesis of its own essential insufficiency, but which, if they exceed the bounds within which toleration is possible, can issue only in the destruction not in the creation of the law. Thus to the original problem: How can a law which is determined by the temporal process of 'Politik' still possess Right? this line of thought can offer no solution but only a denial that the problem exists, since it denies the determination of the law by 'Politik'. But this denial can be maintained only at the cost of imposing an impossible burden upon the activity of the moral will, which must now be conceived as creative of the state in a double sense. Not only must it accept a system of laws and carry it out in individual actions, but it must also be regarded as the activity by which the system of laws itself comes into being; *i.e.*, it must perform in addition to its proper activity of carrying out the law, the *political* activity of making it. If we enquire how it is possible for the moral will to perform this second activity, I think Prof. Krone can offer no answer beyond the dogmatic assertion that it does so. "The state", he says, "is a creation of the moral ("sittlich") consciousness, indeed it is this moral consciousness itself, plucked out of the individuals and set up over against them ("aus den Einzelnen herausgestellt"), and therefore, as an independent being and itself a self, imposing upon them commands with the authority of right" (p. 32). I cannot see that either this passage or the others in which such "Herausstellung" is referred to (pp. 34, 37), throw, or could throw, any light on the nature of this mysterious operation.

I do not pretend to have exhausted the points of Prof. Krone's book which call either for criticism or for appreciation, but I wish in conclusion to revert to the more general problem with which I started.

The whole of this argument would be rejected (or more probably ignored) by an Empiricist 'common sense', not out of dissatisfaction with any or with all of its conclusions, but through simple inability to accept the presuppositions upon which it is based; not on the ground that it is a bad metaphysical theory of the state, but on the ground that it is a metaphysical theory of the state. While confessing sympathy with this attitude, I suggest that it is time it tried to justify itself; for in doing this, in *criticising* the presuppositions which it rejects, it will *ipso facto* have bridged the gulf which separates the Empiricist and Rationalist traditions, and which has inflicted both with such a barrenness that there has been no new political philosophy in the one tradition since Hegel nor in the other since Locke.

The presupposition which constitutes the philosophy of Rationalism 'metaphysical', and, as such, objectionable to 'common

the sense', seems to be, or to include, the assumption that the ultimate ground of reality, the standard of truth in knowledge, of goodness in conduct, and of right in law, and the proper object of philosophy, must have a being which is timeless and which is apprehensible by reason and not by sense. This is to assign to it something of the status of the Platonic idea,<sup>1</sup> and it is this which provokes the fury of the Empiricist attack. It is to the Empiricist so certain as to be beyond argument that nothing which is not sensible (and that is to say, nothing which has no material existence) has an objective being, and that the Platonic *îdea* must be reduced to the status of the Lockian idea.

Empiricism does not stand on this issue in a directly contrary opposition to Rationalism, since Rationalism itself has been propelled through each successive stage of its development by reaction against the Greek principle. Thus the metaphysics of Descartes and Spinoza was based on the denial of objective being to species, and the Critical Philosophy of Kant on the denial that the ground of reality could be made the object of (theoretical) reason. Indeed the whole movement of philosophy which culminated in Hegel may be fairly characterised as a movement *away from* the principle that the ultimate ground of reality is Idea or Form, towards the principle that the ultimate ground of reality is Spirit. But each stage of this process has been marked by an incomplete emancipation from the forms of thought proper to the position against which it has reacted—this trait, characteristic of Rationalism, is the philosophical counterpart of Gnosticism, if that may be described as the recurrent temptation to cast new truths into moulds of Greek thought which are inadequate to them—and it has always been in virtue of this incompleteness of emancipation that it has been subjected to the criticism which produced the succeeding stage. Thus Spinoza conceived his Infinite Substance still under some of the categories proper to the Platonic Idea: it was the eternal and changeless, apprehensible by reason divorced from sense, and essentially the object and not the subject of knowledge. Kant's denial of the possibility of metaphysics in the Critique of Pure Reason is essentially a denial that the ultimate ground of reality can be conceived *under these categories*. The place of the Infinite Substance as the ground of reality is taken (if the implications of this work of Kant's are drawn) by the nature of consciousness in general. In this conception many of the categories derived from the Platonic Idea have been discarded and replaced by categories more proper to Spirit: the ground of reality is now conceived not merely as passive object but as active subject of knowledge: many, but not all: for this subject is still endowed with an ideal universality, in being conceived as "Bewusstsein *überhaupt*", and it must follow from Kant's premises that, in so far as it is knowable at all, it is knowable by an activity

<sup>1</sup> Or of the Aristotelian Form: the difference between Plato and Aristotle is not relevant here.

of knowledge from which sense is excluded (by a ' *nicht-sinnliche* Anschauung '). Hegel, finally, makes explicit what is implicit in Kant ; he first names the ground of reality Spirit and he first is in earnest with the ascription of activity to it. But his conception is itself not free from relics of Platonism : the activity of the Spirit is conceived, it is true, as a process, but as a timeless process, and it is held to be knowable by reason apart from sense.

It is the persistence of this ' Gnostic ' trait within the Rationalist philosophies, still uneliminated in spite of the fact that the driving force of the Rationalist development itself has been nothing but the movement towards its elimination, which exposes these philosophers to the devastating scepticism of Empiricist common sense. Not because Kant placed the ground of reality in consciousness, but because he converted this consciousness into a " *Bewusstsein überhaupt* " ; not because Hegel thought reality the product of a process, but because he translated this process into a sphere of timeless being, are these theories obnoxious to attack by the ' new way of ideas '. Common sense *knows* that a " *Bewusstsein überhaupt* " can be nothing but an ' abstract idea ', and that a process which is not temporal is a process confined to the order of thought. (Prof. Kröner's work must fall under the same condemnation, since the rift and the tension of consciousness, from which he derives not only the state but the whole development of " *Kultur* ", are the rift and the tension of " *Bewusstsein überhaupt* ", pp. 32, 93.)

The conclusion seems not unimportant, if it is true, that Rationalist philosophies are opposed to (Empiricist) ' common sense ' only in so far as they fall short of the goal to which the development of Rationalism was itself directed, since it will follow that Empiricism is not essentially antagonistic to a philosophy of spirit, but only to the lingering *misperception* by which Spirit is still endowed with some of the characteristics of Form. It belongs to the nature of Form to be general, and to be *therefore* conceivable, *i.e.*, to be a possible object of intellectual apprehension in abstraction from the material which it informs. May it not be the nature of Spirit to be individual and to be therefore inconceivable apart from the body which it inspires ? That this is so, is implied in the characteristic doctrine of the Hegelian philosophy of the state, that there is no standard accessible to the private reason of the subject, by reference to which he can stand in judgment over the historical state to which he belongs. This means that the state, a spiritual body, has no end, purpose, ' *Ziel* ', ' *Zweck* ', ' *Aufgabe* ' ; in a word no *essence* which can be conceived in distinction from its actuality. If it had, it must be open to the individual to grasp this essence and to judge any actual state as good or bad according as it fulfils it more or less. For it is not, of course, on the ground of the ignorance of the subject (Plato's ground), that Hegel denies to him such right of judgment. On the contrary, the state for him must be grounded upon the free assent of the subjects, and assent is free only when it is based on knowledge. The chief

aim of secular education and of all those institutions which in England are called 'political'—a Representative system, Parties, Free Press and Free Speech—he sees in this, that they inform the judgment of the private citizen with an understanding of the grounds of the order to which he submits, and thus make possible his free assent. But the grounds thus disclosed to the insight of the citizen are not 'metaphysical', but exclusively historical; they enable him to comprehend the historical circumstances, and, more important, to imbibe the historical spirit, by which his civilisation has been brought into being in time; but they do not provide him with a philosophical insight into the essence of statehood, by reference to which he can judge this particular embodiment of it.

How, then, can the Hegelian claim for the speculative philosopher access to a non-temporal standard for the understanding of the state, which he denies to the citizen for the criticism of it? And yet this claim is implied by any metaphysical theory of the state. If the philosopher can conceive the essence of the state, so can the citizen; and the Hegelian has no case against the 'Aufklärung'. But if he cannot, then his task must be limited (if it is a limitation) to that historical understanding which is the basis of citizenship; and it almost seems that we must reluctantly surrender that last relic of Platonism, and most hard to let go: the doctrine that the philosopher has a private path to the inmost nature of reality.

It is no doubt superfluous to add that I am not suggesting that a philosophy, in order to be tenable, must be Empiricist, but that it must be proof against the Empiricist objection; which is a wholly different thing. An empiricism which accounts for the state by reference to the satisfactions, animal instincts or psychological dispositions of the particular consciousness fails as miserably to account for its right as a 'metaphysical' theory to account for its reality. But I do not see why the understanding of a state by reference to the development of historical spirit of which it is the outcome should not account for both together. The philosopher's proper share in this task would be (not merely to trace or to record, but) to understand the historical course of philosophical thought in so far as it has contributed to this development, from Plato to Hegel and beyond. In referring a state to such a source (e.g., in tracing some element within it to its roots in the Platonic philosophy) the philosopher would be referring it to a ground which is beyond the reach of the Empiricist criticism. The Empiricist may doubt the objective existence of the Platonic idea, but not the objective existence of the Platonic philosophy. The Platonic philosophy, that historical body of thought developing in time, is a spiritual reality, neither universal, so as to be a possible object of conception, nor particular, so as to come within the range of any sensible experience; not material, and yet not without material embodiment.

I will conclude by applying this suggestion more closely to Prof. Kroner's argument. He regards it as the essence not only of the

state, but of all branches of 'Kultur', of the natural sciences (pp. 44-50) and of the Christian religion (pp. 51-58), that they are attempts to heal the original rift ("Gespaltenheit") of the human consciousness, and he fails, as I would contend, by the impossibility of explaining how an historical reality, such as all these are, can heal even partially a metaphysical rift. But why should the rift be held to be 'ursprünglich' in this sense? Why should it not itself have come to be in an historical process? Why should not an historical religion, *e.g.*, be held to have implanted the cleft which it was the task of an historical religion to heal?

M. B. FOSTER.

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*Du Cheminement de la Pensée.* Par ÉMILE MEYERSON. Paris, 1931.  
Félix Alcan. 3 vols. Pp. xxvii, 1036. Price 130 fr.

WE are spared the necessity of giving a direct *résumé* of the argument of this book, because M. Meyerson has done it himself so admirably in the preface. His views are well known; they are here widened and generalised, so as to embrace the whole field of the activity of reason.

In *Identité et Réalité* (1908) he was concerned to show, by a study of the history of science, that scientific thought moves continually between two poles, that of identity furnished by reason, and that of diversity furnished by the behaviour of the real; and that the progress of scientific discovery depends on the scientist being pulled in these two directions, and endeavouring to find a way of accommodating himself to both. In *De l'Explication dans les Sciences* (1921) he reached the same position by a more direct method of logical analysis, showing that scientific reasoning is essentially a process of identification of a diverse, and that without diversity there would be no progress, without identity no understanding. At the same time he made an analysis, complementary to his analysis of scientific thought in *Identité et Réalité*, of a different type of explanatory thought, *viz.*, that of Hegel and Schelling, with the object of showing that these philosophers failed because they endeavoured to conceive of reason as including diversity within itself. The effect of this second book was to widen the scope of his principle; for if his logical analysis were correct, then all thinking, whether in ordinary life or in science or in philosophy, must be described as an attempt at an identification of a diverse which can in the nature of the case never succeed, yet always leads to new and richer insight, the identity belonging to reason, the diverse being presented and maintained against reason by the behaviour of the real.

His first book left him open to the criticism that his attack on positivism (for that is what it essentially was) succeeded in showing only that identity was a conception useful for scientific progress, not

that it led to a comprehension of the nature of things. In fact, the admission that the identity could never be completely made out, was perilously close to the positivist thesis that comprehension was not attainable, and that science was rather concerned with action. M. Meyerson could then be appealed to as showing what a valuable device the supposition of identity was for a science seeking power, how chimerical a guide for a science seeking light. His second book removed this reproach, directly attacking the positivist position, showing that without the supposition (in the sense of the phrase *enfant supposé*, as he says himself) of objects, *i.e.*, identities, there would be no objective world to act in, and that without the attempt to understand this world (and not merely to act in it) there would be no possibility of generalisations to guide action by : finally, that all attempts to understand, in common sense, science and philosophy, are processes of identification of a diverse.

His opponents were not yet without resources. Refusing to be convinced by his systematic analysis of the positivist position, insisting that his main case lay in his study of the actual processes of thought shown by scientific investigators, they could use some of his main points as the starting-point for a further attack. He had in effect been the defender of the concept of substance, regarding relations as secondary and subordinate ; but he had succeeded by confining his examination to the scientific thought of the past, and to the dominating motives of a discarded school of philosophy. But while he was yet writing, his whole position was being undermined by the triumphant march of relativity theory. Why did he not, they could ask, give actuality to his thesis, by seeing how it squared with the new outlook ? There he would find stress on relation and change, not on substance and identity ; in short, a final departure from the old categories of thought, a striking confirmation of the positivist case.

So M. Meyerson wrote his third book, *La Déduction Relativiste* (1925), to prove that there too, his view was sound ; and he succeeded so well as to convince Einstein himself. " Hé quoi," said Einstein to M. Meyerson (M. André Metz reports it in his interesting book on Meyerson, " *Une Nouvelle Philosophie des Sciences* "), " ce démon de l'explication, que j'avais remarqué chez Descartes et chez tant d'autres et qui m'avait paru si étrange, ce démon *j'en suis donc possédé moi-même* ? Voilà quelque chose dont j'étais à cent lieues de me douter. Eh bien j'ai lu votre livre, et je l'avoue, je suis vaincu."<sup>1</sup>

With which M. Meyerson might well have rested content. But his thesis was so universal in its scope, so enlightening in its application, that he could not remain indifferent to the many developments in the varied fields of thought, in logie and epistemology, psychology and philosophy (to say nothing of science), going on all round him.

<sup>1</sup> Metz., pp. 179-180.

He has always had a reputation for wide knowledge. M. Paul Souday wrote of him in 1926, "C'est un homme universel. Son savoir encyclopédique était déjà fameux, il y a une trentaine d'années, au quartier latin." And he adds, after instancing an occasion on which this wide knowledge was displayed, "Il fut acquis, que M. Meyerson avait tout lu".<sup>1</sup> It must be confessed that he has not belied his reputation. He could not resist the temptation to enter these varied fields, and to effect a complete generalisation of his thesis. The result is this book in three volumes, containing over 700 pages of text, and over 250 pages of notes, in which M. Meyerson surveys the world of thought, looking out "upon the city of the Trojans, and the ships of the Achaeans, on the flashing of the bronze, and on the slayers and the slain".

Perhaps the most picturesque instance of his method of treatment is to be found in his handling, in the same chapter (Bk. I., ch. ii.), of the quantum theory and prelogical mentality. The attitude of the most advanced physicist, he insists, "confirme nettement la supposition que la science, la raison scientifique, aspirent profondément à concevoir un réel de substances en tant que substrat et explication des phénomènes changeants. Tout pas accompli dans la direction opposée apparaît au savant comme un sacrifice, un renoncement" (I., 79). As for the primitive, his basic category, which M. Lévy-Bruhl describes as that of participation, is simply an unfamiliar form in which the same basic impulse manifests itself. "Le primitif, en liant les phénomènes selon ce mode, ne sort pas pour cela du moule général de notre intellect. En affirmant qu'il *participe* des caractéristiques de l'arara tout en restant homme, il raisonne comme le chimiste qui réunit par un signe d'égalité les substances présentes avant et après la réaction, comme le physicien qui identifie deux formes de l'énergie dont il ne perd cependant aucunement de vue la diversité foncière" (I., 83).

But all this is only a minor confirmation, however valuable; and the central field of his survey lay elsewhere. His own thesis required that certain principles should be rigidly and firmly maintained, *viz.*: Reason supplies only the concept of identity; the diversity within which the identity is to be inserted must come from beyond reason, in short, from sensation. Without a diversity given from beyond itself, reason can make absolutely no progress; with such diversity, reason can never absolutely succeed in its identification. Hence no proposition, however elementary, can achieve complete rationality: there is always in it a setting aside of a diverse, which from one point of view can be regarded as being just as incomprehensible as the primitive's setting aside of the diversity between himself and his totem. No proposition then is completely *à priori*, all are at most *plausible*.

From this point of view, the developments of symbolic logic, which endeavoured to bring pure mathematics and logic within a

<sup>1</sup> Quoted in Metz, p. 10.

single purely deductive system, had to be shown to be mistaken ; and the fact that they reduced themselves in the end, on their own showing, to a pure tautology, had to be emphasised, and the moral pointed. In seeking the irrefutable, the symbolist loses progressiveness. Nor could this criticism be confined to symbolic logic. There is much both in modern logic generally, and in modern mathematical theory, which suggests that in the end any attempt to achieve rationality through the comprehension of necessary relations between substance and attribute, or between various attributes, breaks down, and that the only satisfactory basis for reason is the extensional view of the proposition. M. Meyerson had every reason to wish to show the fruitfulness of his own point of view in relation to this topic. On the one hand, the endeavour to reduce all differences in concepts to pure extensional differences is just what his theory would explain as inevitable : just as in the general progress of science he considers that reason demands that qualitative differences in things should be set aside, and their underlying quantitative basis sought for. Thus e.g., he regards the attempt of Whitehead to reintroduce qualitative differences into science as doomed to failure. But on the other hand, to push such a tendency to its furthest limits without taking account of the conditions within which it must work, would be fatal to an understanding of the situation ; for the identification of the diverse which reason seeks to accomplish would become at once purely rational, purely tautological, and purely sterile. The effect of his treatment here is to defend the Aristotelian view of logic, which moves between the subject-attribute and the extensional view of the proposition, and to insist on the primacy of the subject-attribute relation, and of the notion of necessary connexions between concepts. "L'entendement veut toujours et partout une classification naturelle, car c'est elle seule qui peut mener à l'établissement d'une cohérence intime des attributs, visée ultime de la raison" (I., 218). But this "establishing of coherence" is not to be effected by reason disconnecting concepts from the real and dragging them to its private lair and there scrutinising them ; it is only to be done by inserting them in the real and studying their behaviour in the real. This language is not metaphorical or loose. M. Meyerson insists on it again and again. As he says in one place (the remark is characteristic and is found in various forms at various places) : "Je manipule une petite sphère, de diamètre déterminé, qui est en laiton argenté. Mais ce que j'observe en réalité par l'œil de mon esprit, si l'on ose se servir de ce terme, c'est le comportement d'un objet idéal, le *corps électrisé*, qui, lui, n'est fait d'aucun métal de composition précise. . . . La petite sphère en laiton ne fournissait en réalité qu'un exemple, plus ou moins habilement choisi, de ce concept général et abstrait, elle en formait une représentation. En ce sens, donc, toute expérience n'est et ne peut être qu'une expérience de pensée. C'est ce qui fait d'ailleurs, nous l'avons vu, qu'elle peut servir au progrès de la pensée" (II., 463).

We cannot here follow him into detail in his treatment of the various problems of logic, deductive and inductive (Bk. II.), of the nature of mathematical reasoning (Bk. III.), and of non-mathematical reasoning (Bk. IV.). It is needless to say that his handling of topics is always suggestive and enlightening, based on an extraordinarily wide knowledge of the literature of the subject, and that he maintains a consistent and steady position throughout. The endeavour to trace the manifold implications of a single principle throughout many and diverse fields is, on his theory, the essence of reason; and M. Meyerson, with notable consistency, exemplifies his own theory in expounding it.

L. J. RUSSELL.

## VI.—NEW BOOKS.

*Freedom of Will.* By N. O. LOSSKY. Translated by N. DUDDINGTON. London: Williams & Norgate, Ltd., 1932. Pp. 150. 6s.

THERE is a pre-Revolution story of devout moujiks who, after being harangued for hours by an apostle of atheism, did nothing more sensational than say "Tell us some more", with philosophic or with bovine calm. Prof. Lossky is no herald of atheism but rather theologous beyond the fashion of most modern philosophers. But mine is the moujik "Tell us some more" attitude, whenever I read any of his all too slender volumes which imprison in a single sentence often, or in a single paragraph, matter that clamours for expansion in volumes not only of philosophy but of poetry, drama or novels. I will make use of the public opportunity afforded by this review to ask one of the most inspiring philosophers of our day to tell us some more, preferably in English. Or, if he has already told us some more in any books not yet translated into French or German, may some publisher amongst us be induced speedily to English them. My questions, like the present book itself, will not confine themselves to the subject denoted by the title.<sup>1</sup>

The self who is free is a concrete ideal being, a supra-temporal and supra-spatial substantival agent, substance or monad. As created by God and as other than his manifestations either in our psycho-physical world or in the Kingdom of the Spirit, he is free from all characterisation or determinateness; he is non-qualitative, super-qualitative, quality-less, *Wesenlos*, indeterminate power or potentiality or creativity. (This, Lossky says, means being *meta-logical*, a term which he also uses in L for entities to which the Laws of Thought do not apply. But surely we can say the substance is indeterminate and therefore not also determinate in the same respect, etc.?) We are referred to Hegel and Driesch. But are not Plato and Aristotle even more relevant? For what else is the substance as thus defined, "itself by itself," but the Platonic  $\tauὸ\muὴ\deltaν$  or  $\iota\pi\oδο\chi\eta$  and more particularly the Aristotelian  $\iota\lambda\eta$  or  $\delta\iota\pi\alpha\mu\iota\alpha\tau\eta\delta\alpha\tau\iota\pi\phi\iota\alpha\epsilon\omega\sigma$ ? Aristotle indeed like Lossky uses it as an explanation of the freedom of the will and as the source of all evil and imperfection, though not in itself evil, and (in W chap. x.) Lossky in general terms does identify his own metaphysic with Aristotle's, an identification which, if we are allowed to make selections from Aristotle, is obviously in some respects justifiable. But, as in the case of Plato and Aristotle, so here, we cannot but ask where the principle of individuation is to be found. To a certain extent, so it seems, in the substance itself, in spite of its

<sup>1</sup> To refer to Prof. Lossky's works I use F for the present work, W for *The World as an Organic Whole*, I for *L'intuition, la matière et la vie*, L for *Handbuch der Logik*, P for *Die Grundlehren der Psychologie*.

indeterminateness. At least (in W 103) we learn that though each substance is infinite potentiality, by itself it is infinite in one direction only (and, presumably, each in a different direction). But is not this being determined or determinate or predestined *ab initio*, to a certain extent at least? Its full individuality, however, the substance can find in its individual *éidos* or image of perfection which is in God and which is not thrust upon it but is its norm or *ought* which it is free either to violate or to fulfil. (This also, though one would hesitate about "forms" of individuals, can be extracted from Aristotle in one of his moods at least.) It cannot be said that Lossky, any more than Plato and Aristotle, has solved the problems of the how and wherefore, whether of plurality or of diversity, and on these, especially in relation to Plato and Aristotle, I at any rate would like to hear some more.

Lossky here, as elsewhere, explicitly allies himself with William Stern. The latter, in a brilliant work which deserves to be more widely known amongst us than it is, has worked out in great detail that philosophy which William James in a lecture on Fechner praises as the destined source of a living metaphysic. According to it reality is a hierarchy of persons which starts from beings probably much lower than the electron and ascends through the atom, molecule, cell, human individual, family-person, nation-person, and the persons of natural kinds, to the World-person. But even as low down as the atom, and certainly in the human individual, we reach a society of persons consisting of one super-ordinate and many subordinate persons. According to Stern's own personalism (*Person und Sache*, especially Vol. I, p. 17 ff.) which he calls esoteric, immanent, aristocratic, accessible to the few only, the super-ordinate person (e.g., the human *ego*) is not a *Sonderperson*, above and other than the subordinate persons (e.g., the cells or atoms or electrons of his body), which are independent of it though it is not independent of them. It is merely the principle of unity of the parts or the parts in a unity, and of course there is no supra-temporal and supra-spatial person unless it be the World-person who is after all (so it seems in places, e.g., pp. 168-169) only a limiting notion or *Vernunftidee*. Owing to this mere immanentalism Stern gets himself into very unesoteric though aristocratically defiant difficulties, but just because of it we acquiesce in his calling a family or nation or a natural kind a person, so long at any rate as he keeps off his very suggestive and illuminating details which all make for the opposite theory. Lossky's personalism on the other hand is obviously that which Stern contemptuously calls naïve, exoteric, required by the many only and by art. The relation between the super-ordinate person and the subordinate persons (at least in the case of human personality) according to it is just that between a monarch and his subjects (see F 61-62 and, for the psychological working out of this, P *passim*). This theory certainly works better with human personality, which we know best. But does Lossky apply it also to sub-human persons (cells, etc.) and to super-human persons (the family, nation, a natural kind)? From most places it would seem that he does. But who is the monarch or organising centre, say, of a community? A visible king or president? If so, then a community is like a worm with a head easily replaceable and not always very important. Or is it an invisible spirit or god like Athena for Athens and Roma for Rome? If so, does this spirit leave the community when the latter is conquered, according to the ancient belief, just as the human *ego* leaves the physical body at death? Such a theory would be very acceptable to *Æsthetik*, and it may be that the naïve, mythopoeic or imaginative representation

of the truth, or the language of babes and sucklings, is after all more ultimate and intelligible than the scientific or would-be-scientific. But nowhere (I speak always of publications in English, French, or German known to me) does Lossky allude to his difference from Stern, though it is a burning one or one calling for the stake. It may be that it is too obvious to need pointing out to any one but a moujik. But I at any rate do not know how far Lossky will carry his own theory or when he wants to fall back on Stern's.

Further, Lossky insists with a certain fondness on the Leibnizian idea that the human ego or organising substance has its own invisible body which is other than the physical body composed by the cells and which survives after death (W 110-111, 146-147; F 73 ff.; I 169, 172). But has the cell also such a body other than that composed by the molecules, has the class mammals a body alongside of the bodies of all mammals, and has Athena (if my interpretation is accepted) a body other than the bodies of the Athenians and other than Athens and Attica? If not, why not?

Again, why does a substantival agent created and free to be perfect manifest himself only in such a lowly form as a mere electron, cell, animal or even ordinary human being? Because, says Lossky, he wants perfection, fulness of life, the being of the Absolute, for himself only in his own right and through his own powers only, and therefore cuts himself off from the Kingdom of the Spirit, repels or tries merely to dominate all other agents and thus limits his own being. Hence our psycho-physical world or kingdom of hostility (W 99, 102, 104, 107; F 78-79 and chap. ix.). But although greed may perhaps explain how an agent came to fall to this level, it will not explain how, wanting and striving after fulness of life, he yet stays there. Indeed Lossky seems himself to admit (F 143) that such greed rather leads to the transcendence of the low level. Will he not add or substitute another motive, pride, consisting of the agent's "pre-conscious" "conviction" that he already *is* the Absolute, and solidified into absolute resistance against all consciousness of others or of the universal, against all communication, determination, action or manifestation? Such an agent or substance, we might say, is creative potentiality self-determined as absolute resistance or negativity. It does not manifest itself or participate in either the Kingdom of the Spirit, or in the psycho-physical world, whether as an electron or even lower still, in one dimension only, as a Leibnizian "momentary spirit". In so far as this pride persists in a human agent it is a tendency for the "enough", the "no more or higher because I am the highest," or for destruction. We might perhaps also say that pre-natally we all "exist" in this Kingdom of mere negativity, and so we might dispense with the reincarnation theory suddenly introduced in one hasty sentence (F 144). Will Lossky take this last step in *χωρισμός*, granting to the substance a kind of concrete ideal being without any manifestation, as he grants it to the Absolute? Or does he adhere to his dictum (W 101) that substances enter the temporal process inevitably? But if they do, is not this another determination or limitation of freedom thrust on them *ab initio* or by the Creator? But from F 103 I should conclude that Lossky could agree with the suggestion here put forward.

In his other works (again I speak only of those accessible to me) Lossky does not define his relation to the theory of evolution. It seems rather that he believes in a theory of *devolution*. At any rate our psycho-physical world is the result of disruption (apparently of a portion of the

Kingdom of the Spirit), and from certain passages one gathers that the disruption was gradual. With regard to these books I would ask : " Was I at any time an actual (and not merely potential) member of the Kingdom of the Spirit, actually living in its perfect space and time ? " In the present work (142 ff.) Lossky definitely adopts the theory of evolution beginning from the electron or lower still. But, I would ask, were the present full members of the Kingdom of the Spirit mere electrons at any time or animals or human beings ? In other words is our evolution necessary or could it have been skipped ? Is it a regeneration merely of beings who need never have degenerated but could have lived *ab initio* in the perfect space and time of the Kingdom of the Spirit, evolving only with its evolution ? Is our evolution consequential upon a preceding devolution ?

For the rest I can, and needs must, be brief. It is obvious that considered in my primordial substantiality or as mere potentiality I am completely free, free to accept the plenary grace and perfect state of the Kingdom of the Spirit, free to do nothing (will Prof. Lossky agree ?), or to act as a less or a more developed member of the psycho-physical realm of hostility, or to co-operate with God's grace or inspiration in my redemption from it. I am not limited on the mental plane. Not by any empirical character or habits. For I am not this ; I need not develop it, or, having it, I can dominate or change it. Nor by lack of perfect knowledge or genius. For these are stored up for me in the Kingdom of the Spirit if I will have them. I am free on the physical plane : free even (I paraphrase F 97-98) not to be crushed by an avalanche descending on me if I will not try to crush or repel or resist it. I need never have had a repelling, resisting or impenetrable body, or, having it, I can allow it to be transfigured and so become harmlessly penetrable. Nor is the avalanche (or the substantial agents manifesting themselves in it) compelled by any law to crush me even though I resist it. It too can become transfigured. Laws of nature are merely bad habits destined sometime to disappear. But full positive material (*i.e.*, effective) freedom, " infinite creative power for realising endless varieties of beauty and goodness and for discovering perfect truth ", exists only in the Kingdom of the Spirit or of God, where is no strife or division, no repetition, habit or law but only ever-new creativeness, no death either of separation or of oblivion or of the dropped past but only a past ever enriched in the present and unfolding towards the future, where space has an infinite number of dimensions, where each is united to the whole and the whole is in each, where is universal mutual interpenetration, where form and matter are one. In the world of conflict into which we have got ourselves our freedom is mainly " formal and negative " ; or, to interpret once more Ἀριστοτελικῶς, it is δύναμις ἡμα τῆς ἀντιφάσεως, the power of not doing whatever it is we do. As to our power of doing good, we are limited here by externality of relations, by lack of discrimination or knowledge, by egoistic and by wrong desires, by poverty of ideas, fancies and emotions, by habits, by the difficulty of finding the best or even the desired ends or means, by the conflict of motives, desires and ends, entailing always renunciation and " ambivalence " in all our experience. Even God, I suppose Lossky would say, pointing as a Christian to the historical incarnation, is limited in his operation in our world. But we always retain our formal freedom, the power to desire or will the good and also to become perfect, if not all at once, at any rate step by step and with the help of grace. Thus, except that he leaves a loophole for escape or redemption, Lossky reintroduces all our disabilities which form the stock-in-trade of determinists. Only, it would seem,

(is this a consolation or desolation ?) we are ourselves ultimately responsible for all these disabilities, perhaps individually (?) but certainly collectively, the collectivity in question being the whole of Creation. But, if this idea is to be tolerable, we really need a more adequate pre-existence theory and eschatology than are provided by a fleeting allusion to reincarnation. And once more I ask with an uneasy feeling of something wrong : Have we really fallen from an actual perfection and is our particular world-process unnecessary and irrelevant ? If there was a fall, was not this merely from potential perfection to potentiality become mere resistance or negativity ? Is not our evolution, even at its lowest stage, not a fall from perfection but a rise from such negativity ? Is it not in all its stages necessary for fallen potentiality ? Is it not necessary for all potentiality or creature-life ? Could we have entered the Kingdom of the Spirit from the beginning ? Has any one done so ? Have its present full members not passed through our or analogous stages ? Lossky leaves me perplexed.

My naïve (but not unjustified nor uninvited) questions and my simplified exposition of the bare essentials must not mislead any one into imagining that Prof. Lossky is merely simple or dogmatic. As usual he is rich in close reasoning, subtle and penetrating analysis, and in suggestions both from and for science. The translation runs smoothly and easily. For it as for her other renderings of Prof. Lossky's works we owe Mrs. Duddington our sincerest thanks. But it is a pity that hasty proof-reading should have marred so truly learned a book with impossible Latinity, with fantastic Greek accents, and on page 60 with the misplacement of the fate-fraught, death-fraught *iota*. (O shades of men who clubbed each other to death for that letter !) And O for an index ! without which a book is, for the student, but a hand without fingers.

P. LEON.

*The Province of Logic.* By RICHARD ROBINSON. Routledge & Sons Ltd., London, 1931. Pp. viii + 292. 10s. 6d.

In this book Mr. Robinson sets out to interpret certain parts of Cook Wilson's *Statement and Inference* and to determine at the same time the province of logic. In these days we see the more formal and mathematical types of logic gaining adherents steadily, but Mr. Robinson does not write from their point of view. Indeed he ignores it completely. In his first chapter, in discussing the starting point for logical enquiry, he makes the rather surprising statement "A man might start from the view, *which presumably everybody holds in some form*, that logic is some kind of study of thought as opposed to the objects of thought" (p. 6, italics mine). He is setting forward Cook Wilson's view here, but he accepts it as his own and as applicable to logic to-day. Yet surely this is a theory of logic which many modern logicians question and deny. For instance, contemporaneously with the appearance of Mr. Robinson's book appeared Mr. R. M. Eaton's *General Logic*. In it Mr. Eaton remarks quite explicitly : "Logic is more properly a science of the objects of thought than of thinking" (p. 7). Mr. Robinson may feel that the mathematical, symbolic and purely formal 'logics' should not be dignified with that name, but it is impossible to be blind to the fact that they exist and flourish, and it is accordingly unwise to commence a study of the province of logic by assuming that every one would agree that logic is the study of thinking as opposed to the objects of thought. The conflict between the two views

is, as it seems to me, the crux of the modern logical problem, and no side will solve it by ignoring the other. Will there emerge a logic that can unite again the, at present, discordant developments from the traditional type? Or are we to be content with two wholly distinct, yet necessary, enquiries which happen to be called by the same name? Such is the position which the late Mr. F. P. Ramsey adopted: "It really should be clear that those who say mathematics is logic are not meaning by 'logic' at all the same thing as those who define logic as the analysis and criticism of thought" (*The Foundations of Mathematics*, p. 21, n. 1). Yet on the whole the first alternative is surely the more satisfying; though if we set it as the ideal it would be necessary also to stress the fact that any artificial and premature attempt at synthesising the two views of logic would be likely to do much more harm than good.

However this may be, the reader of Mr. Robinson's book will wish that the author had faced, and begun by facing, the modern conflict in logic, whereas he writes as if no such conflict existed. For this reason his first chapter is likely to alienate many readers who sympathise with the formalist position; and this is to be regretted, for by whatever name we term it Mr. Robinson's enquiry is important and deserves attention. He expounds and develops the teaching of Cook Wilson. He succeeds in throwing light upon many difficult points, and every student of Cook Wilson will thank him for working out many of the hidden implications of *Statement and Inference*.

The book is divided into two parts. The first gives Cook Wilson's view of the province of logic, the second makes clear and defends his view of knowledge. Logic is a study of thinking, which includes knowing or apprehending, opining and wondering. (Where would Mr. Robinson put what we usually know as "suspending one's judgment"?) The bond of union which enables us to call all three 'thinking' is the fact that opinion and wonder ultimately depend on knowledge. As studying thinking logic cannot rightly be termed a science. For the aim of a science is to discover facts, to know objects or things, whereas logic is reflection on thinking. It is noticed that no mention is made of judging. Mr. Robinson thinks that the outcome of Cook Wilson's theorising is the denial of judging as such. He will permit us to talk about statements and to study them. But this study would belong to grammar rather than to logic, though it would be a part of grammar in which logic is very interested. But the use of the word 'judgment' to denote a mental act should be avoided; for the one term 'judgment' covers both knowledge and opinion, and, as a consequence of using the word, we are led to neglect the fundamentally important difference which exists between the two. The distinctions between quantity, quality, relation and modality found in the traditional textbooks of logic do not enter into the more immediate subject-matter of the logician. They belong to a "grammatico-metaphysical enquiry" dealing with "general features of reality indicated by general forms of statement". The subject-attribute relation again is primarily a metaphysical matter, though of indirect interest to the logician. In dealing with grammar Mr. Robinson shows how a study of certain inherent features of language might be made, of affirmation and negation, of command and question, of the subject-attribute relation and so on, which could be of real service to the logician. Finally, Mr. Robinson relates logic to psychology. This chapter (137-175) is important but not always very helpful. For Mr. Robinson's type of logic the distinction between logic and psychology needs to be very carefully drawn. The criticism usually made of it by people of the opposite school is

that it is merely psychology. And I feel that Mr. Robinson does not face this criticism squarely. He holds that psychology appears "to be for the most part the study of sensation and its conditions and of what is suggested thereby" (p. 138). If the scope of psychology were adequately defined in this statement it would be easy to distinguish it from logic as the study of thinking. But even Mr. Robinson does not identify psychology with the study of sensation, for obviously it claims to be much more than this. The distinction from the point of view of method is more helpful (pp. 142-146), but the real difficulties of the distinction between psychology and logic are not faced. How would Mr. Robinson answer the prevalent criticisms of his type of logic?

Reading between the lines it is possible to guess what Mr. Robinson would think of the more formal logic. The examination of the general forms of being is held by him to be metaphysical rather than logical. The statement of such general forms is language and the study of such statements grammar. In dealing with the syllogism, the inferring involved in syllogising is held to be part of the subject-matter of logic, but the working out of various possibilities as to syllogistic form is not logic. He quotes (p. 106) Cook Wilson with approval. It "is no part of true logic whatever, though valid enough in itself, but is science in the same sense as pure mathematics". If I understand the position rightly, therefore, Mr. Robinson would hold that the formalist logic of to-day is in part mathematics or a like science, in part metaphysics and in part grammar. But never, in so far as it deals with the object of thought as opposed to thinking, is it logic. It is a science of actually existing things, or features of such things, as every other science is. Formalists, of course, would not object to the view that their study is like and ultimately one with mathematics, but they would object to the implication here contained that the objects of their science are not pure. In the last resort, no doubt, the matter would reduce itself to a conflict about two interrelated problems, the relations between possibilities and actualities, and the nature of the universal.

The knowledge of the distinction between universal and particular is held in this book to be ultimate and self-evident (p. 220). But at the end of the book I was still not quite clear as to what universal, on the one hand, and particular, on the other, meant in Mr. Robinson's system. This might be no fault of Mr. Robinson's. But with regard to the particular it seemed to me that Mr. Robinson failed to state its nature clearly because his theory of perception is not clear. (He admits (p. 30) that Cook Wilson's theory is obscure.) And with regard to the universal Mr. Robinson himself on occasion seems to admit 'formal' apart from 'material' validity. For instance on page 242 he remarks: "It is certain that if the law of the parallelogram of forces is true, the conclusions that may be mathematically deduced from it will be true. It remains uncertain whether the law is true and therefore whether the conclusions are true. In other words mathematics gives to science only formal, not material, validity." But the implication discussed here is just an instance of a 'universal', the form in general, which the formalist claims to be studying; and if Mr. Robinson admits it he cannot easily deny 'essences' and 'subsistences' which are not actually existing things but yet definitely objective. But the language of this passage is not usual to Mr. Robinson. He is, for instance, anxious to show that we know the universal only in the particular, and that our knowledge of every universal is accompanied by perception or imagination, as in the passage 147-175. But even here he seems to be treading on dangerous ground when discussing the perfect

figure in geometry. It, according to Mr. Robinson, is known neither by perception nor imagination. We apprehend "the nature of the perfect individual figure" or "what the nature of the particular must be" (pp. 154-155). But it is still a particular figure though perfect. Yet surely the words "what the nature of the particular must be" (which are Cook Wilson's) suggest a universal rather than a particular. (What Mr. Robinson says about geometry in this section seems to me very debatable and very dangerous language for a non-mathematician to use. Incidentally, what can be meant by saying "But the theory of proportion belongs not to geometry but to the general theory of quality" (p. 4)? Is not 'quality' here a bad misprint for 'quantity'?)

In the second part of the book Mr. Robinson sets forward in greater detail, and defends, Cook Wilson's view of knowing. The statement of his method, of the extent of knowledge, and the defence, are all admirably clear, and the view of knowledge set forward is in my opinion very sound. There are many matters of detail however, on which I should like to join issue with Mr. Robinson. I may conclude by touching upon two points only. Firstly, the act of knowing or apprehending is unique, and Mr. Robinson seems to imply that it is one in its nature throughout all instances of knowing; but he is yet led to admit two apparently distinct kinds of apprehending, 'knowledge by acquaintance' and 'knowledge about'. But if 'knowing' is really one in its nature this apparent division of knowing into distinct kinds must be shown to be ultimately unreal. Mr. Robinson, however, nowhere attempts to relate them as far as I can see. Secondly, I should like to question the extension of the word 'thinking' to cover the act of knowing. Robinson agrees that "some knowing at least is not thinking" (p. 196). When we speak of logic as the science of thinking do we usually wish to include under it the study of the act of knowing? Would it not be truer to say that what we wish to suggest by the phrase is that logic is rather the study not of the knowing act but of the preparation for it, the thinking which makes it possible? May it not be the study of the ways in which we come to knowledge rather than of the knowing act itself? This seems to me the more natural interpretation to put upon the phrase. And may we not also hope that the study of formal possibilities could find a place in a logic of that sort?

I wish to conclude by complimenting Mr. Robinson on a book which seems to me well worth reading.

R. I. AARON.

*Nicolai de Cusa Opera Omnia Iussu et Auctoritate Academiae Litterarum Heidelbergensis ad Codicum Fidem edita. II. Apologia Doctae Ignorantiae.* Edidit RAYMUNDUS KLIBANSKY. Lipsiae: in Aedibus Felicis Meiner, 1932. Pp. viii, 49. M. 12.

THIS handsome book, as set forth in the title, is the second volume of a projected complete and critically exact edition of the works of Nicholas of Cusa; of which the fourteen already arranged for will contain the treatises on philosophy and on theory of the State. The first volume contains what was recognised, equally by himself and by friends and opponents, as his great and representative philosophical work, the *De Docta Ignorantia*. Of this there appeared in 1913 the very serviceable edition of Prof. Paolo Rotta—the sole reprint of the Latin text since 1565—on which my article in MIND, October, 1925, was based. The rapid succession of a critical text under new editorial care, to be followed by the whole

of the works, is one sign of a remarkable revival of interest, not only in Cusanus himself but in the thinkers who in modern times have continued to pursue those ontological questions which the seventeenth and eighteenth centuries tended to set aside. Partially revived in the nineteenth century, the return to speculations about reality more characteristic of the Renaissance than of the era of theory of knowledge initiated by Descartes, promises to prolong itself in the twentieth.

On one point I have the same fault to find with the statement of the German editors as with that of Prof. Rotta in a work on the Cardinal's life and thought reviewed in *MIND*, July, 1928. They would like to make out the distinctive achievement of Cusanus to be a last product of mediæval synthesis. Against this I still maintain the older view which saw in his philosophy a typical expression of the revolution in thought characteristic of the early Renaissance. In support, it is sufficient to point out that he has been called with some justification "a Copernican before Copernicus"; that, as an enthusiast for the Platonic revival, he shares the anti-Aristotelian prejudices of the Humanists; and that he inspired Giordano Bruno with the fundamental principles of his metaphysics. The editors, in their general introduction, refer to assumed influences on Descartes, Spinoza and Leibniz; of whom it is improbable that any but Leibniz (who knew something of Bruno) had read Cusanus. On the other hand, the name of Bruno is "conspicuous by its absence," like the effigies of Brutus and Cassius, as glanced at in the passage of Tacitus from which that once familiar journalistic phrase was taken.

I have had to recall to myself, as a correction in the usual historical perspective, that, as I have put it elsewhere, there is approximately as long an interval between Nicholas of Cusa and Giordano Bruno as between Descartes and Kant.<sup>1</sup> By a not altogether fanciful schematism, the historical contrast and parallel might be carried into more detail. In the fifteenth and sixteenth centuries the most prominent names indicate a linking on to the pantheistic tradition from Neo-Platonism, which was heterodox in the "classic Middle Age" but had never been altogether overwhelmed by the more orthodox scholastic tradition. What marks the seventeenth and eighteenth centuries is on the one side the sharply subjective starting-point in theory of knowledge, and on the other side the working out of the new "mechanical philosophy" for all scientific explanation of the external world. Within each period a new departure in science, consistent with the same general drift, makes a difference between the beginning and the end. Cusanus held, on metaphysical grounds, that everything in the universe moves and that all bodies distinguishable by astronomy are inhabited; but, so far as I have been able to see, he had no distinctive theory of the solar system. In the Hegelian phrase, he painted with the "grey in grey" of philosophy. Bruno, by generalising the hypothesis of Copernicus, and treating the "fixed stars" as suns, each with a solar system of its own, gave poetic colour to his "innumerable worlds". Every star became another Phœbus Apollo with his own choir of Nymphs. Similarly, both Descartes and Kant were in science mechanists; but, before Kant, Descartes' hypothesis of ethereal vortices had given place to Newton's "attraction," treated as inexplicable empirical fact. Therefore, in natural science, Kant worked on the basis of the Newtonian and not the Cartesian physics.

<sup>1</sup> See *Prolegomena to a New Metaphysic*, p. 56, where the name of Giordano is unfortunately misprinted.

The effacement of sharp oppositions, characterising the most recent time, was prefigured in the aphorism, at once clear and profound, cited from Coleridge by Prof. Muirhead.<sup>1</sup> "The full applicability of abstract science ceases the moment reality begins." The "classical mechanics", we know, still remains "nearly right"; and perhaps we may add that no physical doctrine whatever can be more than nearly right. Hence philosophy is necessarily drawn back to thinkers like Cusanus and Bruno and Spinoza, who, in their different ways, faced, like ancient philosophy, ultimate ontological questions on metaphysical grounds.

The book or pamphlet of Cusanus now republished with the most elaborate textual apparatus, the *Apologia Doctae Ignorantiae Discipuli ad Discipulum*, has hitherto remained in a rather ambiguous position. Ostensibly it is addressed by one disciple of Cusanus to another. The editor is now able to prove conclusively that it was written by Cusanus himself under the form of a kind of Platonicising fiction. One disciple is supposed to send to another a report of the Cardinal's replies to the attack of a professor at Heidelberg, an upholder of the orthodox Aristotelian Church-philosophy named Johannes Wenck. The disciple reads out passages and reports the replies. Wenck had spoken of Cusanus as "pseudo-apostolum" and described his doctrines as leading to unbelief. Cusanus, already made a Cardinal, does not reply in a tone of invective, his severest expression being that the adversary is an ignorant man unaware of his own ignorance, and "inflated with the vanity of verbal science". We already perceive the very tone of Bacon's disdain for the school-logic.

Cusanus, in his account of his method, reminds us strongly of Heraclitus as he expresses himself in the fragments numbered 11 and 80 in Burnet's translation: *The lord whose is the oracle at Delphoi neither utters nor hides his meaning, but shows it by a sign.—I have sought for myself.* It is not in the least to deny reason, as the adversary maintains, to make vision of a thing more certain than discursive reasoning about it—seeing than hearing. The search for truth through testimony is in need of discourse: commonly we are led by faith, which comes from hearing. To go deeper, there must be vision. For discursive reasoning extremes are disjoined: the centre cannot coincide with the circumference. Intellect, as distinguished from mere discourse, sees in unity number, in the point the line, in the centre the circle. The "coincidence of contraries" does not mean that number, as any particular number, is unity, though it is involved in unity. God, as the Areopagite says, is at once the being of all and no particular being. The "learned ignorance" is not a knowledge of particular things determinately marked off from one another, but a knowledge that knows itself not to be exact knowledge. All the being in every "form", as being but not as definable relatively to other beings, is God.

The logic of the schools, in the view of Cusanus, has become an obstruction to thought. It would be almost a miracle, he says, that those who are nourished in the Aristotelian sect should see anything but a heresy in the principle of the coincidence of opposites. Their minds have been bound by the authority of inveterate custom. Their method is that of a contentious science which leads only to victory in words.

He does not himself reject the school-logic within its range, but uses it skilfully against his scholastic antagonist, whom he exhibits as transgressing the law of contradiction. He points out the absurdity of the adversary's supposition that he must hold particular things, or the sum of

<sup>1</sup> Coleridge as Philosopher, p. 129.

things, to be God. The excuse is that he is of them who have no eye for anything beyond the senses. The mystical experience is not to be attained by all who choose. No one who understands can take the "learned ignorance" to mean simple absence of all knowledge.

Cusanus did in fact succeed in combining the "mystical theology"—understood, as I think I may venture to say, in a pantheistic spirit—with the keenest interest in the rising new sciences of nature. On both sides, therefore, the syllogistic method of the schools had become empty to him. He did not fail to see the necessity of accommodation, though many possibilities no doubt seemed open in the early Renaissance that the counter-Reformation effectively closed. He retained from Averroism—as Bruno and Spinoza did later—the distinction between what may be taught to the few and to the many. For precedents he goes further back than to the Arabian philosophy, quoting Hermes Trismegistus and Dionysius the Areopagite, as well as the warning in the Gospel against casting pearls before swine. Intellectual light is not for weak eyes. Works such as those of St. Dionysius himself, of "Johannes Scotigena", of David of Dinant, and similar books, should be kept out of their sight. With the universality of the new humanist culture, he cites Avicenna with Plato in the *Parmenides* to indicate the strangeness of the kind of knowledge for which the absolute maximum coincides with the absolute minimum, "in quo omnia unum." The orthodox scholastic adversary is of "the vulgar."

To the disciple he explains with the utmost candour the way in which he arrived at his "learned ignorance". He assents to the suggestion that it came to him first as a divine gift, and that afterwards he found it by eager search in the doctors. Pagans, Mohammedans and Christians, orthodox and heterodox, are cited without discrimination as saying the same thing. I think it is in Prof. Rotta's *Life* that I have found the information that in the Cardinal's library (still preserved at Cues) there is a copy of the "Hermetic" dialogue *Asclepius* with expressions of enthusiastic admiration in the margin. Yet this is a decidedly anti-Christian work. At a time when discrimination had become clearer, Bruno quotes a passage directed against triumphant Christianity (assignable to the latter part of the fourth century) in which Hermes predicts to Asclepius a great persecution of "the religion of the mind", to be followed by a new revolution which shall restore the visible universe to honour and put an end to the age that has preferred darkness to light and death to life.

Evidently the scholastic adversary had definitely accused Nicholas of what has since been called pantheism; classing him as one of the "universalizantes". The Cardinal replies that he does not know precisely what the name means. The view that he really holds is not that all things as such are God; but that all things in God are God. Here his distinctions do not differ from those that were afterwards made by Bruno; who could have perfectly assented to the proposition that God, in contrast to the universe, "est complicative omnia et nihil omnium explicative".

In impugning Parmenides, the Cardinal says, the adversary impugns also all the doctors and saints of theology. "Parmenides" here of course means the Platonic Parmenides, especially in "the first hypothesis" as interpreted by the Neo-Platonists, which denies all predicates as applied to "the One". Cusanus himself defends by a citation of Dionysius the position to which the adversary objects, that, in so far as infinite, God is neither Father nor Son, infinity being expressible only by negation. The position of the *De Docta Ignorantia* is ultimately that the being of the

creature is from Absolute Being in a way that cannot be expressed or understood.

Near the end of the *Apologia*, the disciple (whom we may imagine as a German pupil of Cusanus addressing an Italian) speaks of the progress which the new doctrine is making in Italy. There is as yet no thought of "national philosophies". In this, we may allow, the Renaissance did not differ from the Middle Age. Philosophy, as such, claims universality. That the doctrine is an innovation is admitted; but complete confidence is felt in its triumph. "For without doubt this speculation will vanquish all the modes of reasoning of all the philosophers, although it is difficult to leave behind the things to which the world has become accustomed." It is certainly difficult; for now, within a few years of five centuries from the publication of the *De Docta Ignorantia*, the successors of the scholastic adversary seem bent on capturing Cusanus himself as an adherent of the synthesis which he probably looked upon as irrevocably overthrown. We have, however, his own words as his monument, and for the preservation of these in accurate form we may give thanks.

T. WHITTAKER.

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## VII.—PHILOSOPHICAL PERIODICALS.

JOURNAL OF PHILOSOPHY. xxviii. 23. **A. Lesser.** 'Superstition.' [Defines it as "a belief or practice which is isolated from a system of reference", and distinguishes between beliefs which are held in ignorance of the dominant system of reference, and those which are essentially survivals. Beliefs which are reasonable in the context of a world view, are not 'superstitions'.] **J. A. Lynch.** 'The Conception of Life as Entelechy.' [Argues that it is superfluous, if it is admitted that organisms behave differently under different conditions, can induce changes in their environments, and that these changes can differ with the number of the organisms.] xxviii. 24. **J. H. Randall.** 'The Latent Idealism of a Materialist—A Review of Santayana's *Realm of Matter*.' [Santayana having argued that idealists are secretly materialists, his reviewer retorts that his preference for the 'realm of essence' is a form of idealism—and a fantastic one. If "essence and spirit are secure only so long as, like the British Crown, they refrain from taking part in the politics of earth", and if so all power is given to Caesar, "the most fanatical Roman need not grudge a prayer to God". Yet matter remains indefinable and unknowable, and Santayana's discourse on it "is a paean to spirit". His eclecticism remains an unceasing marvel. His "essences were sired by John Locke out of Plato" but "the observant eye can discern the names of Aristotle, Fichte and Schopenhauer" also in their pedigree. So the conclusion is that "his metaphysical dualism between matter and essence is at bottom moral, the expression of a whole-hearted allegiance to spirit".] xxviii. 25. **J. R. Reid.** 'A Definition of Value.' [Mainly a discussion of R. B. Perry's theory of value, which is accused of committing the psychologist's fallacy at one point; its conclusion is that "values have their source in animal reaction and vital preference, obscure physiological activities for the most part unconscious and perhaps forever beyond our understanding; but they are realised and enjoyed in moments of immediate pleasure or conscious satisfaction."] xxviii. 26. **O. L. Reiser.** 'Biological Relativity.' [A very discursive article composed of *aperçus* suggested by its title.] **A. Uchenko.** 'On the Meaning of a Proposition.' [A reply to F. C. S. Schiller's paper on *The Sacrifice of Barbara* in the *Personalist* for October, 1931. Suggests that "the logical meaning is the *minimum meaning* of all meanings which are associated with the given sentence," as a reply to the charge that all propositions suffer from an indefinite 'ambiguity'.] xxix. 1. **S. Hook.** 'Reason and Nature: The Metaphysics of Scientific Method.' [An able and extended review of M. R. Cohen's book with this title, which, though laudatory, criticises it incisively from a pragmatist standpoint.]

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 38<sup>e</sup> Année, No. 1. January-March, 1931. **B. Croce.** *Antihistoricisme.* [“Antihistoricism,” or decadence of the historic sentiment, is Croce's name for the spiritual sickness of the present post-War generation. It appears in two opposite forms, *viz.* :

(1) as an anarchic spirit, hostile to all traditional standards and seeking only something ever new; and (2) as an authoritarian spirit which tries to stop all development and to stereotype some one set of traditional standards. The former treats all standards as relative and changeable; the latter tries to fix one particular standard as absolute. The former is the spirit of Irrationalism, the latter the spirit of Abstract Rationalism. Both are unfaithful to the true character of European civilisation as at once ever-developing into fresh forms and yet also remaining ever continuous and identical with itself. In the past, similar anti-historical movements have always been symptomatic of crises in the growth of civilisation, but in the present-day world that spirit of love is lacking without which nothing of abiding value can be created. Antihistoricism is opposed to that freedom of creative thinking to which European civilisation in the past has owed its greatness.] **E. Cartan.** *Le parallélisme absolu et la théorie unitaire du champ.* [An important article dealing with the problem of "finding a geometric scheme which will realise for the gravitational field, the electromagnetic field, electricity, and matter, what the general theory of relativity has realised solely for the gravitational field in a void". This problem is discussed in the light of the difference between two conceptions of parallelism, that of M. Lévi-Civita, according to which the final position of a vector undergoing "parallel" displacement from a point of origin, A, to another point, B, depends on the path of displacement so that the transport is not integrable; and Einstein's "Fernparallelismus", or "absolute parallelism", according to which the parallel transport is integrable. Otherwise put, for Einstein a Riemannian space with absolute parallelism does not have "curvature," but it has "torsion," whereas a Riemannian space with parallelism *à la* Lévi-Civita has "curvature," but not "torsion". Taking Einstein's space, *i.e.*, a Riemannian space with absolute parallelism, it follows that, if Physics is to be "geometrised," the laws of Physics must allow themselves to be expressed through equations based upon the components of the tensor of torsion and their co-variant derivatives. There result two problems: (1) By what equations of this sort must the general scheme of a Riemannian space with absolute parallelism be restricted, to yield a faithful image of the Physical Universe? (2) How are these equations to be integrated so that they yield solutions in which we can recognise matter, electricity, and the gravitational-electromagnetic field, as revealed to us in experience? The solution of the first problem depends on conditions derived partly from logic, partly from the requirement of analytic simplicity, partly from the concept of physical determinism (as distinct from mathematical determinism). But when a theory satisfying these conditions has been constructed, it is found that, whilst it certainly applies to the Physical Universe, it does not completely explain it. The second problem forces us to recognise that there are "characteristics" of the Physical Universe of which some, like the propagation of light, fit easily into a unitary theory based on a Riemannian space with absolute parallelism, but that there are also others, *e.g.*, in the theory of hydrodynamics and of electricity, which do not fit into the unitary theory, as at present formulated.] **L. Brunschvicg.** *De la vraie et de la fausse conversion (suite).* [Continuation of an article of which the first instalment appeared in Vol. 37, No. 3 of the *Revue*. The main aim of the argument is to distinguish between a pre-scientific and a post-scientific rationalism, or between the way in which children and primitives reason and the way in which scientists reason, between "verbe-discours" and "verbe-vérité". Primitive and pre-scientific ways of thinking may, and do, of course,

persist even among educated people into the scientific era, which in the history of human thought began with Galileo and Descartes. "Metaphysics, from Aristotle to Galileo, is devoid not merely of this or that truth, but of all truth, of the very concept of truth." So long as we reason in terms of essences, universals, substances, attributes, and, in short, of the whole logical apparatus of Aristotle and the Scholastics, instead of in terms of relations and equations, our thinking is in principle primitive and pre-scientific. Philosophy, as the "march of humanity towards truth", requires us to distinguish between two systems of thinking, *viz.*, one which "by argument builds up a hierarchy of specific and generic concepts, the other which through a progressive chain of equations expresses the structure of the universe". In detail, M. Brunschvicg applies these distinctions polemically, partly to clearing up the equivocations lurking in familiar philosophical terms, like "experience", partly to an elaborate criticism of the neo-thomistic theory of knowledge and truth, as expounded by Gilson in his *Le Thomisme*. A further article will continue the argument.]

**J. Laporte.** *Le libre arbitre et l'attention selon saint Thomas.* [Begins by distinguishing two planes of the argument about free-will, *viz.*, (1) the metaphysical-theological where the problem is the relation of man's free-will to the First Cause conceived as God, and (2) the psychological where the problem is the relation of free-will to motives and secondary causes. Confining himself to the second problem, the author undertakes to show that Malebranche's concept of attention is in harmony with the teaching of St. Thomas, and is indeed required in order to complete, and reconcile with each other, the various statements of the Angelic Doctor concerning free-will. In the present article, the Thomistic doctrine is carefully analysed and, incidentally, shown to be consistent with the teaching of Aristotle and St. Augustine. Thereby the problem is narrowed down to the *potestas ad opposita* which characterises a rational will, *i.e.*, a will determined by its inherent nature to seek the highest good as that good is presented to it by the understanding. This *potestas* cannot be located between the decision and its realisation in act, for the act, in the absence of obstacles, follows infallibly on the decision. Nor can it be located between the judgment and the decision, for the will cannot but decide to realise what the understanding presents to it as the highest good in the given situation. Hence, free-will reduces in last analysis to freedom of judgment. Unlike the judgment of animals, that of man is not subject to *determinatio ad unum*. "Man is master of his acts only so long as he is master of his judgment." The part played here by attention is to be discussed in a further article.]

**R. le Senne.** *Sur deux objections usuelles contre l'idéalisme absolu.* [The two usual objections against absolute idealism which the author sets himself to refute are, (1) that it logically implies solipsism, and (2) that it cannot be reconciled with the empirical fact of obstacles and defeats. The answer follows familiar lines in its emphasis on an overarching Ego (*le je*), or universal spirit, which differentiates itself into self and not-self (whether object or other self), whilst yet remaining one with itself. From this "idealism of consciousness" both realism and subjective idealism are one-sided abstractions. Every particular spirit, even whilst experiencing itself as distinct from other particular spirits, yet can also apprehend itself as one with them through the universal spirit of which they are all alike differentiations. Idealism is "la double vérification de la distinction des esprits et de l'intériorité de l'Esprit à tous". Similarly, the obstacles with which both our will and our understanding meet in experience confirm, rightly interpreted, the idealistic thesis. Without

them, absolute idealism would be "sterile". They are the negative element which challenges the spirit to affirm itself against them and in them. To the efficacy of spirit they add the "sentiment of its efficacy".] *Études Critiques*: **E. Duprat.** *Les rapports de la connaissance et de l'action, d'après John Dewey (suite)*. [Completion of a critical review of Dewey's theories of which the first instalment had appeared in Vol. 37, No. 4. The discussion is based mainly on Dewey's *Quest for Certainty* and *Expérience et Nature*.] **M. Winter.** *Introduction à l'étude de la mécanique ondulatoire, par L. de Broglie*. [A critical review of two recent works by de Broglie.] New Books, French and Foreign. Periodicals.

No. 2. April-June, 1931. **E. Bréhier.** *Y a-t-il une Philosophie chrétienne?* [A very interesting survey of the history of philosophy in the Christian era with the aim of showing that all attempted reconciliations and fusions of philosophy with the Christian religion have been spurious and superficial, and that, at bottom, there cannot be a "Christian" Philosophy any more than a "Christian" Mathematics or a "Christian" Physics. Begins by pointing out the fundamental contradiction between the spirit and emphasis of Hellenic philosophy and those of the Christian religion. Shows how this contradiction came to be recognised by St. Augustine after an initial attempt to ignore it; how St. Thomas' effort to reconcile revelation and reason ends by subordinating reason to revelation and setting up in faith a standard of truth with which reason is not allowed to conflict and to which it must always bow; how the philosophical thought of Descartes and his successors leads at best to Natural Religion, and the thought of Hegel to Humanism, rather than to Christianity; how for de Maistre, Bonald and Lammennais it is a historical accident that Christianity fills the rôle of fundamental social bond which really belongs to religion in general rather than to Christianity exclusively. The chief point throughout is that no philosophy has incorporated, and none can incorporate, the central Christian thesis of the salvation of man through faith in Christ as the incarnate son of God and as giving his life for the sins of men.] **C. Ladd-Franklin.** *La non-existence de l'existence : l'idéaliste pur et le réaliste hypothétique*. [This article, written by the late Mrs. Ladd-Franklin shortly before her death in March, 1930, gives a condensed résumé of her philosophical position. "Existence," in general and in the abstract, is a meaningless term: there is only existence in this or that context, i.e., in this or that field of thought or domain of consciousness. Fundamental for every philosopher is his own consciousness, of which everything mentionable or thinkable by him is *ad hoc* a part. The analysis of consciousness thus provides the philosopher with his indefinable primitive terms. In this sense, philosophy must be based on psychology, though it suffices for the philosopher to examine his own consciousness without going to the inferential evidence of the consciousness of others. This is the position of the "pure" idealist who may at the same time be a "hypothetical" realist, in so far as he postulates hypothetically a self as the bearer of conscious states, or an external object as the cause of those of his states of consciousness which by the possession of a spatial, as well as a temporal, co-efficient are marked off as constituting the domain of the physical world. This combination of pure idealism and hypothetical realism is the only purely logical position open to a philosopher.] **L. Brunschvicg.** *De la vraie et de la fausse conversion (suite)*. [The third instalment of this article (see Vol. 37, No. 3, and Vol. 38, No. 1). With great critical acumen and polemical vigour, the author continues his argument that there are two opposed concepts and uses of intelligence in modern philosophy: one

initiated by Descartes' method of analysis, the other inherited from Aristotle and developed by the scholastics into mere dialectics. He seeks to trace the growth of the former concept and method, and to disentangle them from the constant lapses back into the latter of which even the greatest modern philosophers have been the victims. Thus, *e.g.*, he contrasts two opposed psychologies of thought: one, transmitted from antiquity, is modelled upon the external articulations of language and falsely identifies logical with grammatical structure; the other takes "judgment as the constitutive act of thought as manifested in Descartes' *Cogito* and in the evidence of a mathematical equation". Another formulation of the alternatives is: "He who says idealism says intelligence and liberty; he who talks of intelligible and necessary, condemns himself to realism". Or, yet again, "there are two attitudes of mind: synthetic construction and mediating reflexion". The former employs the free act of thought in constructive judgment; the latter, reflecting on that free act, finds in it nothing but the dialectical contradictions of indeterminism and necessity. Correspondingly, there are two opposed types of rationalism: the one revels in conceptual dialectics, the other freely constructs a network of relational concepts by means of which time, space, causality, and the whole nexus of phenomena is made progressively more understandable. Kant contributed to the development of the latter sort of rationalism in his *Analytic* in which "the victory of the judgment of relation over the predicative judgment of Aristotle is complete". But he fell back into the latter in the section on the *Dialectic* of Pure Reason, and Hegel followed him in this relapse. After having laid these philosophical foundations, the author proposes, in the next instalment, to tackle the problem debated for three centuries between theologians and philosophers, *viz.*, the problem of the meaning of conversion.] **L. Robinson.** *Les débuts philosophiques de Descartes.* [An article devoted, in the light of letters and other contemporary data, including Descartes' own earliest work, the *Olympica*, to a reconstruction of the history of his philosophical development, which, for literary reasons, Descartes himself has misrepresented in his *Discours*. The conclusions arrived at are: (1) that on the night of 10th November, 1619, Descartes conceived the ideal of a single, all-inclusive science; (2) that a year later he decided to adopt for its realisation the method of clear and distinct ideas; (3) that for the following nine years he was busy applying this method tentatively to a number of physical and metaphysical problems, devising, *inter alia*, his *a priori* proof of the existence of God; (4) that during the first nine months of his stay in Holland, October, 1628, to July, 1629, he conceived the *Cogito* and the bulk of his other metaphysical principles, composing in this connexion the *Regulae*; (5) that next he set to work on the treatise which afterwards appeared as *Le Monde*; and (6) that the execution of Galileo in 1633 decided him to postpone publication of any of his writings, until, in 1636, he ventured to bring out the *Discours*.] **E. Von Aster.** *Les aspects principaux de la philosophie allemande contemporaine.* [The author distinguishes in contemporary German philosophy two main schools or tendencies, *viz.*, the "Phenomenological" School of Husserl, Scheler and Heidegger, and the "Wiener Kreis", consisting of Schlick, Carnap, Reichenbach and Wittgenstein. He contrasts the former with the neo-Kantian school which preceded it, showing how it is essentially metaphysical whereas the neo-Kantians try to maintain the "critical" point of view of reason reflecting on its own methods and limitations. As compared with the philosophical movement from Descartes to Kant, Phenomenology, he

claims, represents "a return to Aristotle and the Scholastics". He points out acutely how every imaginable metaphysical tendency is re-appearing on a professedly phenomenological basis. The *Wiener Kreis* on the other hand, eschews all metaphysics and seeks to make philosophy scientific in the sense of giving to it, as to all sciences, a definite logical structure in the form of axioms, themselves neither true nor false, from which the requisite systems of concepts can be built up by strictly logical deduction. From this point of view, every answerable question can be clearly put. By this test, all traditional metaphysical problems are meaningless verbiage.] New books, French and Foreign. Obituary: Michelson.

REVUE NÉO-SCOLASTIQUE DE PHILOSOPHIE. xxxiii<sup>e</sup> Année, Deuxième série, No. 33. Février, 1932. **M. de Wulf.** *Courants doctrinaux dans la philosophie européenne du XIII<sup>e</sup> siècle.* [A sketch of the relation between the four chief lines of thought in the philosophy of the thirteenth century (1) Augustinianism, (2) Thomism, (3) Scotism, (4) Latin Averroism. In spite of their disagreements with one another, (1), (2), (3) are united in opposition to (4). The opposition is concerned with two points in the doctrine of (4), the numerical unity of the intellect in all men, and the necessity of creation. Both are repugnant to the sense of *personality* which is the great contribution of the "new Christianised peoples" of Europe to philosophy. This explains also why Neo-Platonism as such is a sporadic rarity in this century.] **D. O. Lottin.** *La composition hylémorphe des substances spirituelles. Les débuts de la controverse.* [Traces the doctrine that *all* created substances are composite, and the consequent discussion whether the particular composition of matter and form is found in spiritual substances, back to the early part of the twelfth century, and examines the solutions given by Roland of Cremona, Hugh de St. Cher, Phillippe de Grèves, Jean de la Rochelle, Odon Rigaud. It appears from the inquiry that there was no traditional Franciscan or Dominican position on the question before the time of St. Bonaventura and St. Thomas.] **E. de Stryckev.** *Le syllogisme chez Platon.* [The first part of a study of the question whether Plato anticipated Aristotle's discovery of the syllogism and its figures. Traces the history of controversy on the point back from Gemistius Pletho, Gennadius, George of Trebizond and Bessarion to its apparent origin in the second century with Albinus. The general result is that the "ancients" vaguely attribute to Plato a "demonstrative" method, but do not contest Aristotle's originality as discoverer of the syllogism.] **A. de Poorter.** *Les manuscrits de Sophistique de la Bibliothèque de Bruges.* [An account of the contents of five MSS. of fourteenth-century *Sophismata*, such as were current specially at Oxford.] **A. Mansion.** *Sur le texte de la version latine médiévale de la Métaphysique et de la Physique d'Aristote dans les éditions des Commentaires de S. Thomas d'Aquin.* [The text of the version called the *Antiqua* by editors of Thomas since the sixteenth century, if that actually used by St. Thomas, should be William of Moerbeke's revision of the older renderings, with the addition of his translation of *Met. K*. (The *nova* of the editors is usually a Renaissance version.) But how far do the editions reproduce this text faithfully? For *Met. M-N* (not commented by Thomas), the text has to be collected from editions of Averroes prior to 1550, and other more inaccessible sources. In *Met. A-A* there has also been depravation by a succession of editors of St. Thomas, and M.'s researches convince him that in the *Physics* the printed texts of Thomas also represent a contamination of William of Moerbeke's version with the *velut*. The

*Corpus philosophorum Medii Aevi* will include critical texts of all the mediaeval versions.] **N. Balthasar.** *Art, esthétique, beauté, philosophie de l'art et métaphysique.* [An interesting discussion, too long for summary, of the relations of all five, based on consideration of recent work by Christiansen, Basch, Gentile, De Bruyne.] **G. Legrand.** *Philosophie du droit et sociologie juridique.* Reviews, Chronique, etc.

**ERKENNTNIS**, Band 2, Heft 4 ( zugleich Annalen der Philosophie, Band X, Heft 4). **H. Cornelius.** *Zur Kritik der wissenschaftlichen Grundbegriffe.* [Thought can do nothing but seek laws of the connection of the given, that is, of *sensa*. Both "thing" and "cause" are such laws, and are indispensable to the formulation of further laws. Even on this narrowly empirical basis laws can be universal, for they can and must be taken as definitions, though they differ from mere definitions, from verbal or analytic propositions, by their existential intention.] **R. Carnap.** *Ueberwindung der Metaphysik durch logische Analyse der Sprache.* [The meaning of a proposition lies wholly in its reference to experience, either elementarily in its terms or through the manner of their connection. All metaphysical propositions are meaningless; what they express is not an object but an attitude, a *Lebensgefühl*. The proper mode of expression for this is art, and the perfect mode is music, so that "metaphysicians are musicians without musical capacity"] **P. Weiss.** *Two-valued Logic—Another Approach.* **F. Kaufmann.** *Bemerkungen zum Grundlagenstreit in Logik und Mathematik.* **F. G. Hoensbroech.** *Beziehungen zwischen Inhalt und Umfang von Begriffen.* [The last three are essays in logicistic.] Reviews.

Heft 5 and 6. **E. Nagel.** *Measurement.* [Seeks a definition of measurement by starting from the properties of the order of magnitudes as expressed in twelve axioms. The view that measurement is the correlation of numbers with entities that are not numbers, or spatial coincidence with a rod or pointer, is regarded as inadequate.] **W. Köhler.** *Zur Boltzmannschen Theorie des zweiten Hauptsatzes.* [Technical criticism of Boltzmann's attempt to derive the notion of entropy from that of probability.] **K. Hohenemser.** *Beitrag zu den Grundlagenproblemen in der Wahrscheinlichkeitsrechnung.* [Maintains against Reichenbach that there are events about which it is possible to make determinate predictions with a stated maximal margin of error.] **H. Reichenbach.** *Bemerkungen zum Wahrscheinlichkeitsproblem.* [Reply to preceding.] **P. Hertz.** *Vom Wesen des Logischen, insbesondere der Bedeutung des modus barbara.* **O. Neurath.** *Soziologie im Physikalismus.* [There is only one significant method of inquiry, namely, observation and the logical analysis of its results. The exemplar is physics; consequently the method when applied elsewhere may be called physicalistic. Human phenomena, being spatio-temporal, must be studied physicalistically. Only by the use of a single method in all fields is a single system of knowledge possible.] **R. Carnap.** *Die physikalische Sprache als Universalsprache der Wissenschaft.* [A universal language is one that is adequate to express whatever can be stated significantly in any other mode of speech. Physics provides such a language. This means not the reduction of all laws to physical ones but that all concepts that claim to be scientific must be translatable into the terms of physics.] Reviews.

## VIII.—NOTE.

### HEGEL'S *PHENOMENOLOGY*.

MAY I make a few observations on Mr. Loewenberg's view of the argument of Hegel's *Phenomenology* which appears in the April number of *MIND*?

It seems unfortunate that on the only occasion, so far as I am aware, when the book has been specifically noticed in the pages of *MIND*, the main drift of the treatise should have been misrepresented. I do not suppose that those who are acquainted with the work will have been misled by the reviewer. But as many may not be familiar with it, perhaps it may be worth while to try to remove an erroneous impression.

Mr. Loewenberg regards the *Phenomenology* as a descriptive catalogue of the "illusions of perspective that infest all human experience"; as a criticism of the "inevitable folly" inherent in each kind of experience "masquerading" in turn "as the absolute"; as a "comedy of errors" which culminates in the "conviction that absolute knowledge is the sublimation of human madness".

This can only be described as a travesty of the argument. Hegel's *Preface* and *Introduction*, which are intelligible to every competent student of philosophy, furnish a complete refutation of the reviewer's interpretation. It may be enough to refer to Hegel's own words.

The various kinds of experience are not so many "illusions of perspective", since each is not a perspective of the whole. But for misreading the words of Hegel which the reviewer quotes, he would not have fallen into this error. Each is "essential" in the whole truth, and essential to the whole of experience, but it does not, as the reviewer says, represent itself as "solely essential" at any time. Hegel's view is that each kind of experience is true because claiming to be a part of the whole system of experience, and is false when not taken as a part. The reviewer would make him say the reverse—that each claims to be the whole truth and is seen under dialectic criticism to be not even a part and therefore wholly false. Such an interpretation makes nonsense of Hegel's argument and reduces experience to chaos. How an idealism can be thus "constructed" on the basis of a series of errors, even by the use of the "power of negativity", it is impossible to imagine.

The reviewer has ignored the significance of the principle of development which is inseparable from the dialectic method, and is essential to the movement of the argument. For Hegel the various forms of experience are stages in the development of intelligible experience, "Stufen des Geistes" in its progress to its end—complete or pure rationality, "absolute knowledge". Hegel has the end of the argument in mind all along; it is indeed the logical prius of the interpretation of experience as a whole. The reviewer's statement that Hegel considered "that 'absolute knowledge' is the sublimation of human madness" is one which requires no comment since it has no meaning.

The reviewer remarks that there is no continuity between the *Phenomenology* and Hegel's system generally; that Hegel himself was unacquainted with his *Logic* and his *Encyclopædia* at the time he composed his first major treatise (the *Phenomenology*); and asks what is the justification for regarding the *Phenomenology* as continuous with the *Logic* and *Encyclopædia*? This is a question of fact as much as a question of interpretation. The facts are plain from Hegel's biography. For at least five years before the publication of the *Phenomenology* he lectured at Jena on Logic and Metaphysic. From 1803 onwards he lectured on the whole "system of philosophy" which consisted of three parts "Logic and Metaphysic", "philosophy of nature" and "philosophy of mind"—i.e., on what he afterwards described as the "Encyclopædia of the philosophical Sciences". He announced, in fact, that he was preparing for the Press a "compendium" of philosophy in this sense, and that it would shortly appear. It would seem, therefore, that not only had he in his mind the *Logic* and *Encyclopædia* before the *Phenomenology* was written, but that he had written an *Encyclopædia* in his sense before the *Phenomenology* was composed. There is the further point that when the *Phenomenology* was first published, it was described as the "first part" of Hegel's System. There is thus sufficient evidence historically to establish the position that the argument of the *Phenomenology* is continuous with that of the rest of the system. And no other view can be maintained by any one who understands the principle of the system itself.

There is perhaps no need to deal with the reviewer's comments on the translation. But one passage seems to call for remark. He refers to the section entitled "*Das geistige Tierreich und der Betrug oder die Sache Selbst*". To most readers this section is sure to prove difficult, and if the reviewer has not fully grasped its meaning he is in no worse case than many others. The title, if not the thought developed in the section, was probably suggested to Hegel by a sentence in one of the essays of H. Meyer—an art critic of Hegel's time, and a friend of Goethe—where the description of a certain kind of social existence as a "geistiges Thierreich" occurs. The reviewer, in conformity with his view of the *Phenomenology* as a "comedy of errors", proposes to translate "*Tierreich*" by "menagerie"! This misses entirely the significance of the argument. Hegel may not have seen a "menagerie" or a zoological garden, but we may be sure that he was well aware of the difference between a *Tierreich* and a *Tiergarten*.

"Sache" is no doubt a troublesome word to translate; but the reviewer's suggestion that it means "cause" is certainly untenable. "Cause" is ambiguous, and has largely a legal reference which is irrelevant to the argument. The interest of the term lies in the contrast which Hegel draws between "Sache" and "Ding". The subject analysed in this section is perhaps of much wider significance for experience than Hegel's criticism actually brings out. But the analysis goes to the root of the matter and has behind it an historical and substantial background of social and individual experience which must be realised by the reader who would understand the purpose and value of this part of Hegel's argument.

J. B. BAILLIE.

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